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INTEGRATED INFORMATION SUPPORT SYSTEM (IISS)  
Volume VIII - User Interface Subsystem  
Part 3 - User Interface (UI) Services Product Specification

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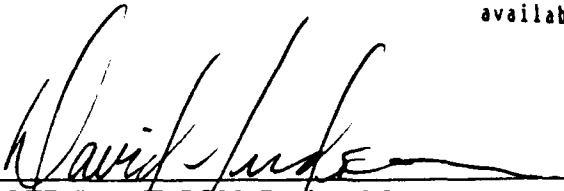


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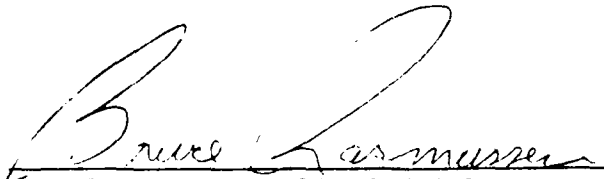
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### FOREWORD

This technical report covers work performed under Air Force Contract F33600-87-C-0464, DAPro Project. This contract is sponsored by the Manufacturing Technology Directorate, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio. It was administered under the technical direction of Mr. Bruce A. Rasmussen, Branch Chief, Integration Technology Division, Manufacturing Technology Directorate, through Mr. David L. Judson, Project Manager. The Prime Contractor was Integration Technology Services, Software Programs Division, of the Control Data Corporation, Dayton, Ohio, under the direction of Mr. W. A. Osborne. The DAPro Project Manager for Control Data Corporation was Mr. Jimmy P. Maxwell.

The DAPro project was created to continue the development, test, and demonstration of the Integrated Information Support System (IISS). The IISS technology work comprises enhancements to IISS software and the establishment and operation of IISS test bed hardware and communications for developers and users.

The following list names the Control Data Corporation subcontractors and their contributing activities:

<u>SUBCONTRACTOR</u>	<u>ROLE</u>
Control Data Corporation	Responsible for the overall Common Data Model design development and implementation, IISS integration and test, and technology transfer of IISS.
D. Appleton Company	Responsible for providing software information services for the Common Data Model and IDEF1X integration methodology.
ONTEK	Responsible for defining and testing a representative integrated system base in Artificial Intelligence techniques to establish fitness for use.
Simpact Corporation	Responsible for Communication development.
Structural Dynamics Research Corporation	Responsible for User Interfaces, Virtual Terminal Interface, and Network Transaction Manager design, development, implementation, and support.
Arizona State University	Responsible for test bed operations and support.

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## SECTION 1

### SCOPE

#### 1.1 Identification

This specification establishes the detailed design of a collection of form-based applications identified as the User Interface Services, hereinafter referred to as UIS. The UIS is one configuration item of the Integrated Information Support System (IISS) User Interface (UI).

#### 1.2 Functional Summary

The UIS is a collection of applications that use the Form Processor. Each application is individually accessed by filling its name in the function item on the IISS Function Screen. Each application presents a form to the user which must be filled in with information for processing by that application. The application then communicates with the Form Processor through messages created and sent by the Application Interface and handled by the UIM (User Interface Monitor) of the Form Processor.

## SECTION 2

### DOCUMENTS

#### 2.1 Reference Documents

- [1] Structural Dynamics Research Corporation, Application Interface Product Specification, PS 620144700 , 1 November 1985.
- [2] Structural Dynamics Research Corporation, Forms Driven Form Editor Product Specification, PS 620144402 , 1 November 1985.
- [3] Structural Dynamics Research Corporation, Forms Language Compiler Product Specification, PS 620144401 , 1 November 1985.
- [4] Structural Dynamics Research Corporation, Form Processor Product Specification, PS 620144200 , 1 November 1985.
- [5] Structural Dynamics Research Corporation, Rapid Application Generator Product Specification, PS 620144502 , 1 November 1985.
- [6] Structural Dynamics Research Corporation, Report Writer Product Specification, PS 620144501 , 1 November 1985.
- [7] Structural Dynamics Research Corporation, Text Editor Product Specification, PS 620144600 , 1 November 1985.
- [9] Structural Dynamics Research Corporation, Virtual Terminal Product Specification, PS 620144300 , 1 September 1985.
- [10] Structural Dynamics Research Corporation, User Interface Services Development Specification, DS 620144100B, 1 November 1985.
- [12] Structural Dynamics Research Corporation, User Interface Services Unit Test Plan, UTP620144100 , 1 November 1985.



[13] Structural Dynamics Research Corporation, IISS Terminal Operator Guide, OM 620144000 , 1 November 1985.

## 2.2 Terms and Abbreviations

Application Interface: (AI), subset of the IISS User Interface that consists of the callable routines that are linked with applications that use the Form Processor or Virtual Terminal. The AI enables applications to be hosted on computers other than the host of the User Interface.

Application Process: (AP), a cohesive unit of software that can be initiated as a unit to perform some function or functions.

Form: structured view which may be imposed on windows or other forms. A form is composed of fields. These fields may be defined as forms, items, and windows.

Form Definition: (FD), forms definition language after compilation. It is read at runtime by the Form Processor.

Forms Definition Language: (FDL), the language in which electronic forms are defined.

Forms Driven Form Editor: (FD FE), subset of the FE which consists of a forms driven application used to create Form Definition files interactively.

Form Editor: (FE), subset of the IISS User Interface that is used to create definitions of forms. The FE consists of the Forms Driven Form Editor and the Forms Language Compiler.

Forms Language Compiler: (FLAN), subset of the FE that consists of a batch process that accepts a series of forms definition language statements and produces form definition files as output.

Form Processor: (FP), subset of the IISS User Interface that consists of a set of callable execution time routines available to an application program for form processing.

IISS Function Screen: the first screen that is displayed after logon. It allows the user to specify the function he wants to access and the device type and device name on which he is working.

Integrated Information Support System: (IISS), a test computing environment used to investigate, demonstrate and test the concepts of information management and information integration in the context of Aerospace Manufacturing. The IISS addresses the problems of integration of data resident on heterogeneous data bases supported by heterogeneous computers interconnected via a Local Area Network.

Presentation Schema: (PS), may be equivalent to a form. It is the view presented to the user of the application.

User Data: data which is either input by the user or output by the application programs to items.

User Interface: (UI), IISS subsystem that controls the user's terminal and interfaces with the rest of the system. The UI consists of two major subsystems: the User Interface Development System (UIDS) and the User Interface Management System (UIMS).

User Interface Development System: (UIDS), collection of IISS User Interface subsystems that are used by applications programmers as they develop IISS applications. The UIDS includes the Form Editor and the Application Generator.

User Interface Management System: (UIMS), the runtime UI. It consists of the Form Processor, Virtual Terminal, Application Interface, the User Interface Services and the Text Editor.

User Interface Services: (UIS), subset of the IISS User Interface that consists of a package of routines that aid users in controlling their environment. It includes message management, change password, and application definition services.

User Interface/Virtual Terminal Interface: (UI/VTI), another name for the User Interface.

Virtual Terminal: (VT), subset of the IISS User Interface that performs the interfacing between different terminals and the UI. This is done by defining a specific set of terminal features and protocols which must be supported by the UI software which constitutes the virtual terminal definition. Specific terminals are then mapped against the virtual terminal software by specific software modules written for each type of real terminal supported.

Window: dynamic area of a terminal screen on which predefined forms may be placed at run time.

Window Manager: a facility which allows the following to be manipulated: size and location of windows, the device on which an application is running, the position of a form within a window. It is part of the Form Processor.

## SECTION 3

### REQUIREMENTS

#### 3.1 Structural Description

The UIS consists of independent IISS programs which may be invoked from the IISS Function Screen. The UIS provides the following independent applications:

- 1) Define Application
- 2) Change Password
- 3) Message Management

##### 3.1.1 Define Application

The following figure shows the basic architecture of the Define Application application:

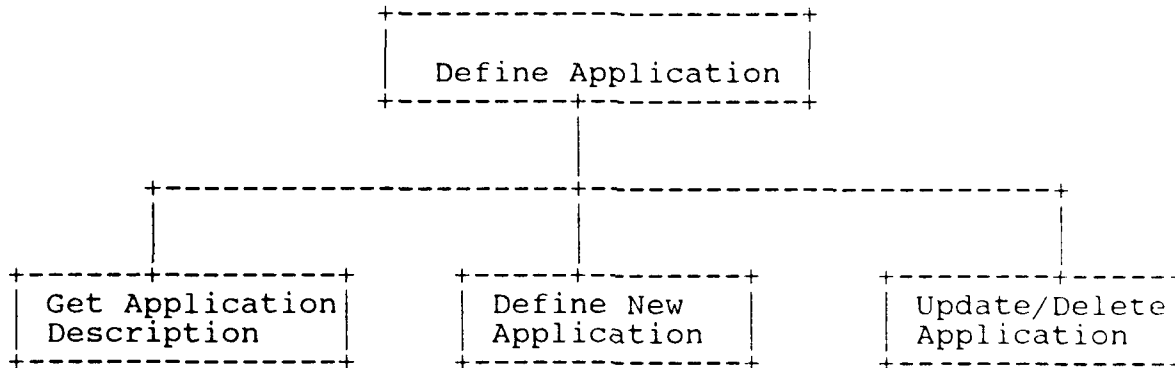


Figure 3-1 Basic Architecture of Define Application

The main module determines whether the entered application name is new or already exists. If it exists, then the application description is retrieved from the APPL table. The user may then modify or delete the application definition. Upon modification, the application's entry is modified in the APPL table. Upon deletion, the application's entry is deleted from the APPL table. Also, upon deletion, the application's entry in the ROLAPP table is also deleted. If the application is new, then the Define Application subfunction inserts the application into the APPL table.

### 3.1.2 Change Password

This application consists of two modules. The main module processes the application form. It retrieves the data from the form and verifies the input. Upon successful verification of password information, it calls the second module to update the user's entry in the UIUSER table. After update, it informs the user of the success of the update.

### 3.1.3 Message Management

In the VAX environment, the files that are updated are located in the directory pointed to by the logical IISSMLIB and have the format MSGXXX.MSG where XXX is the message base number. A new version of the MSGXXX.MSG file is created every time a new base number is chosen or an existing base number is updated. These message files should be purged so that several versions of the same file do not exist.

The record format of the MSGXXX.MSG file is the message number followed by the message name and then the message description. These files may then be used as input to a program called INCGEN. This program produces an include file in the language specified when the INCGEN program was executed. The include files can be generated in C, Cobol, PLI, or Fortran. The include file may then be used in the application for which this message base was defined.

## 3.2 Functional Flow

### 3.2.1 Define Application

Figure 3-2 is a data flow diagram of Define Application.

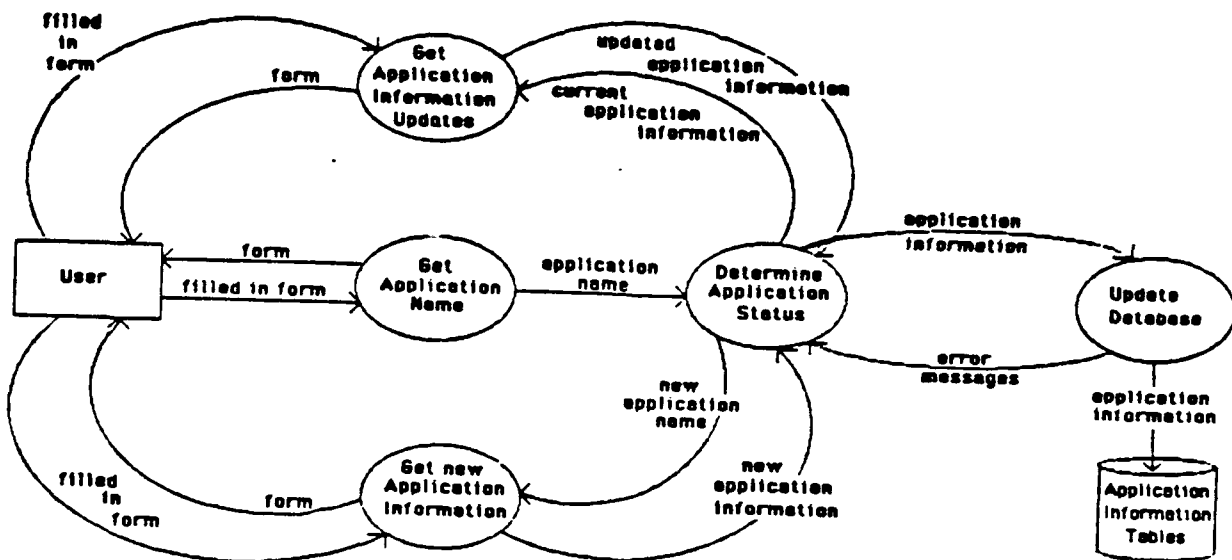


Figure 3-2 Define Application Data Flow

### 3.2.2 Change Password

Figure 3-3 is a data flow diagram of Change Password.

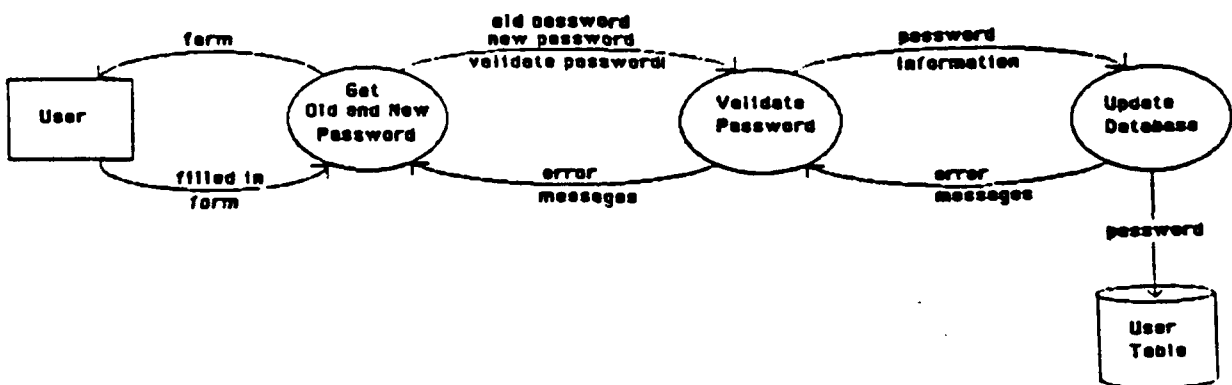


Figure 3-3 Change Password Data Flow

### 3.2.3 Message Management

Figure 3-4 is a data flow for Message Management.

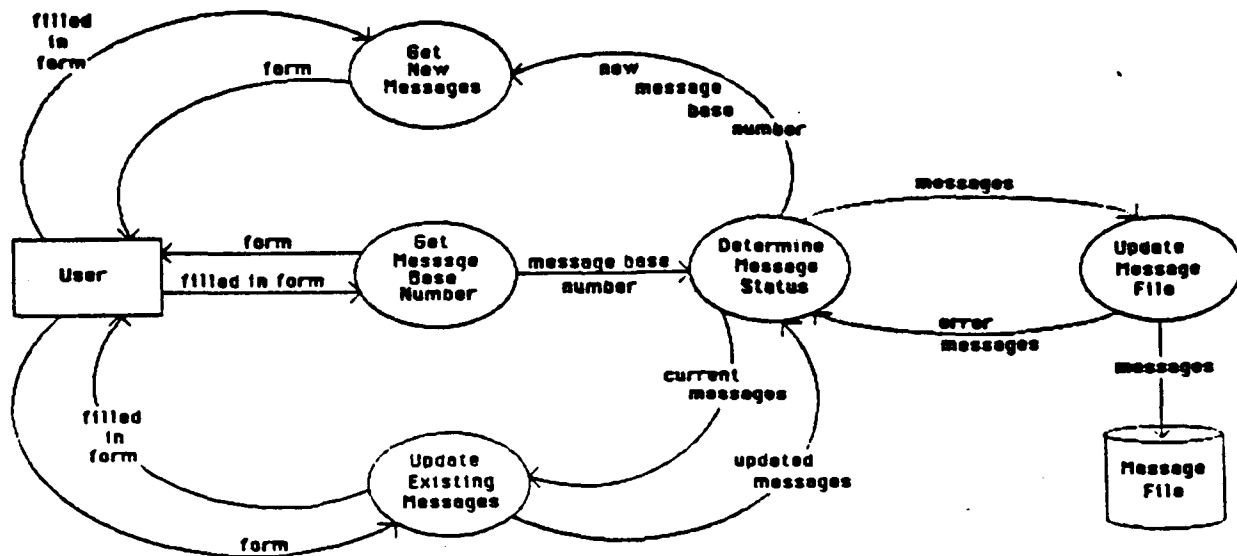


Figure 3-4 Message Management Data Flow

#### 3.2.3.1 INCGEN

Figure 3-5 is a data flow diagram for INCGEN.

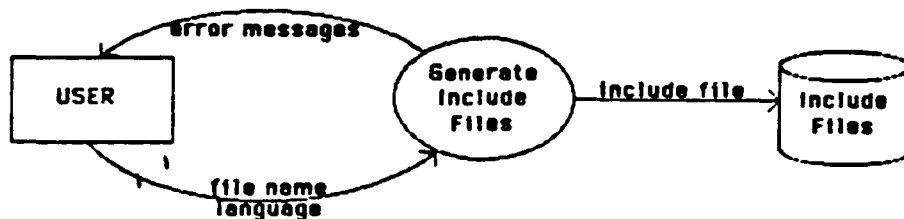


Figure 3-5 INCGEN Data Flow

### 3.3 Interfaces

#### 3.3.1 Form Processor

Define Application, Change Password and Message Management interface with the Form Processor through calls to the Application Interface (AI). The AI routines translate the application request into the NTM message format and then send the message that contains the application request data to the User Interface Monitor.

#### 3.3.2 UIM

The UIM, which is the main control program for the Form Processor, calls the appropriate FP routine when a message is received from a UIS application. The UIM then returns the output parameters to the UIS application.

#### 3.3.3 NTM

The UIS applications must use the NTM initialization routine, INITAL and the NTM termination routine, TRMNAT.

### 3.4 Program Interrupts

This section does not apply to the detailed design of the User Interface Service applications.

### 3.5 Timing and Sequencing Description

The UIS applications are initiated through the IISS Function Screen presented to the user after logging on correctly to the IISS. Each application accepts input from and returns output to the user's terminal via application defined forms.

Specific functions within the User Interface Services permit the user to create, maintain and delete commands which are used to run application programs. Utility functions also exist for changing the user's password and for managing error messages for application development.

### 3.6 Special Control Features

The detailed design of the User Interface Services does not include any special control features as defined in the ICAM Documentation Standards manual.



### 3.7 Storage Allocation

The executable sizes for Define Application, Change Password, Message Management and INCGEN are:

Define Application	268 blocks
Change Password	237 blocks
Message Management	130 blocks
INCGEN	65 blocks

#### 3.7.1 Data Base Definition

##### 3.7.1.1 File Descriptions

The following files are used by the Message Management application.

##### 1. FILE NAME: MSGxxx.MSG

PURPOSE: This file contains message codes and descriptions used by the FP routine PMSGCLC. The XXX in the name of the file corresponds to the first three numbers in the message codes.

DECLARATION:

```
typedef struct
{
    char number[5];
    char name[8];
    char descrip[60];
} MSGLIN
```

##### 2. FILE NAME: user specified

PURPOSE: This file is generated by the program INCGEN. It is used by application programs that call the FP routine PMSGCLC. It enables application code to be independent of the message code values since it provides variable names for the values. This file may be generated in COBOL, Fortran, C, or PLI.

DECLARATION:

The following is a sample include file generated by INCGEN:

```
01 OK          PIC X(5) VALUE '70000'.
01 FPMSGSGS    PIC X(5) VALUE '70300'.
01 INVVPAG     PIC X(5) VALUE '70301'.
01 FNOTFND     PIC X(5) VALUE '70302'.
01 FISOPEN     PIC X(5) VALUE '70303'.
01 ALCERR      PIC X(5) VALUE '70304'.
01 OPNERR      PIC X(5) VALUE '70305'.
01 EXPERR      PIC X(5) VALUE '70306'.
01 TRNCFLD     PIC X(5) VALUE '70307'.
01 UNKTYPE     PIC X(5) VALUE '70308'.
01 PNOTARY     PIC X(5) VALUE '70309'.
01 NILKEY      PIC X(5) VALUE '70310'.
01 SYSERR      PIC X(5) VALUE '70311'.
01 PBFULL      PIC X(5) VALUE '70312'.
01 INVEDT      PIC X(5) VALUE '70313'.
01 FILRERR     PIC X(5) VALUE '70314'.
01 PATHERR     PIC X(5) VALUE '70315'.
01 NOMACH      PIC X(5) VALUE '70316'.
01 PNOTFND     PIC X(5) VALUE '70317'.
01 WRDWRAP     PIC X(5) VALUE '70318'.
01 INVMRG      PIC X(5) VALUE '70319'.
01 PNOTUNQ     PIC X(5) VALUE '70320'.
```

3.7.1.2 Table Description

Only the Define Application and the Change Password UIS applications use the relational database management system ORACLE. The Message Management UIS application uses VAX files. The following table descriptions show the ORACLE database. Some of these tables are used by the UIM of the Form Processor. For completeness and to show the relationships between the tables and views, all have been presented here.

The data base contains four tables and two views:

- (1) UIUSER contains information about users.
- (2) APPL contains information about applications.
- (3) USEROL relates users to roles.
- (4) ROLAPP relates roles to applications.

- (5) ROLAPT is a view relating roles to application information. It is used to retrieve information for the HELP form.
- (6) LOGON is a view relating user information to roles. It is used to verify logon data.

### 3.7.1.2.1 Relationship Between Tables and Views

The following illustrates the relationship between the various tables and views. The symbol <--> indicates that two columns contain the same type of data. The symbol \* denotes key fields. Names enclosed in parentheses are the names of tables from which data is actually retrieved.

#### TABLES

UIUSER		USEROL		ROLAPP		APPL
* USERID	<-->	* USERID				
NAME		* ROLE	<-->	* ROLE		
PSWORD				* APPLID	<-->	* APPLID
						DESCRP
						TYP
						HOST
						WKSTAT
						COM1
						COM2
						.
						.
						COM10

#### VIEWS

ROLAPT		LOGON
ROLE	(ROLAPP)	USERID (USEROL)
APPLID	(ROLAPP)	ROLE (USEROL)
DESCRP	(APPL)	PSWORD (UIUSER)
TYP	(APPL)	

### 3.7.1.2.2 Detailed Description of Tables and Views

The following figure is a detailed description of the tables and views outlined in the previous section. The heading descriptions are as follows:

- (1) CNAME = column name
- (2) TNAME = table or view name
- (3) CREATOR = creator of table or view
- (4) COLNO = column number
- (5) COLTYP = column data type
- (6) WIDTH = width of column
- (7) SCALE = scale
- (8) NULLS = whether or not a column may contain  
nulls

CNAME	TNAME	CREATOR	COLNO	COLTYP	WIDTH	SCALE	NULLS
APPLID	APPL	FORMS	1	CHAR	10		NULL
DESCRP	APPL	FORMS	2	CHAR	25		NULL
TYP	APPL	FORMS	3	CHAR	1		NULL
HOST	APPL	FORMS	4	CHAR	5		NULL
WKSTAT	APPL	FORMS	5	CHAR	5		NULL
COM1	APPL	FORMS	6	CHAR	80		NULL
COM2	APPL	FORMS	7	CHAR	80		NULL
COM3	APPL	FORMS	8	CHAR	80		NULL
COM4	APPL	FORMS	9	CHAR	80		NULL
COM5	APPL	FORMS	10	CHAR	80		NULL
COM6	APPL	FORMS	11	CHAR	80		NULL
COM7	APPL	FORMS	12	CHAR	80		NULL
COM8	APPL	FORMS	13	CHAR	80		NULL
COM9	APPL	FORMS	14	CHAR	80		NULL
COM10	APPL	FORMS	15	CHAR	80		NULL
ROLE	ROLAPP	FORMS	1	CHAR	10		NULL
APPLID	ROLAPP	FORMS	2	CHAR	10		NULL
USERID	UIUSER	FORMS	1	CHAR	10		NULL
NAME	UIUSER	FORMS	2	CHAR	30		NULL
PSWORD	UIUSER	FORMS	3	CHAR	10		NULL
USERID	USEROL	FORMS	1	CHAR	10		NULL
ROLE	USEROL	FORMS	2	CHAR	10		NULL
ROLE	ROLAPT	FORMS	1	CHAR	10		NULL
APPLID	ROLAPT	FORMS	2	CHAR	10		NULL
DESCRP	ROLAPT	FORMS	3	CHAR	25		NULL
TYP	ROLAPT	FORMS	4	CHAR	1		NULL
USERID	LOGON	FORMS	1	CHAR	10		NULL
ROLE	LOGON	FORMS	2	CHAR	10		NULL
PSWORD	LOGON	FORMS	3	CHAR	10		NULL

Figure 3-6 Table and View Description

### 3.8 Object Code Creation

The UIS application routines were compiled with an ANSI COBOL compiler under VAX/VMS. The source is portable to other compilers on machines such as the IBM.

### 3.9 Adaptation Data

The UIS application source is portable to other ANSI COBOL compilers.

### 3.10 Detailed Design Description

#### 3.10.1 Main Program List

The following is a list of all "Main Programs" which are modules that are not called by any other module being documented here. These modules are either program entry points or, if they are hooked into another set of programs via subroutine calls, they are the points the external programs can call and therefore enter through. To differentiate between the two types of entry points, look at the individual Module Documentation (section 3.10.8) and look at Module Type for each of the Main Program modules listed. Note whether the routine is a Program, Subroutine, or Function. If it is a Program, it is truly a main program entry point. If not, then it is merely called by other programs not being documented here.

UI SERVICES Main Program List

Module Name -----	Purpose -----
DBCUPR	CHECK USERID-PASSWORD-ROLE COMBINATION
DBGAPP	Get APplications
INCGEN/MAIN	MAIN MODULE FOR INCLUDE FILE GENERATOR
MM/MAIN	MAIN MODULE FOR MESSAGE MANAGEMENT
PROCAP	PROcEss APplication
PROCDF	PROcEss DeFine form
PROCPW	PROCESS PWORD FORM

### 3.10.2 Module List

The following is a list of all the modules being documented here along with their purpose. Each module has a unique name, no matter what language it was written in.



UI SERVICES Module List

Module Name -----	Purpose -----
DBCLSE	CLOSE DATA BASE
DBCOM	COMMIT DATA BASE
DBCUPR	CHECK USERID-PASSWORD-ROLE COMBINATION
DBDAPP	Delete APplication
DBDAPR	Delete APpRol
DBGAPD	Get APplication Description
DBGAPP	Get APplications
DBIAPD	Insert APplication Description
DBOPEN	OPEN DATA BASE
DBROLL	ROLL BACK DATA BASE
DBUAPD	Update APplication Description
DBUPW	UPDATE PASSWORD
INCGEN/MAIN	MAIN MODULE FOR INCLUDE FILE GENERATOR
MM/MAIN	MAIN MODULE FOR MESSAGE MANAGEMENT
MM/NEWFILE	SAVE MESSAGES IN A NEW FILE
MM/SAVEIT	SAVE MESSAGE FILE CHANGES
PROCAP	PROCEss APplication
PROCDC	PROCEss Define Command form
PROCDF	PROCEss DeFine form
PROCPW	PROCESS PSWORD FORM
PROCUC	PROCEss Update Command form

### 3.10.3 External Routines List

The following is a list of all routines or functions not documented here that are called by modules that are documented here. The first caller, in alphabetical order, is listed as well. The specification in which any module is documented may be found in the Module Documentation Index (Document Number CM 620100001). See section 3.10.6 for a list of the modules that call each of these external routines.

UI SERVICES External Routines List

Module Name -----	First User -----
ADDFRM	PROCDC
CLSFRM	PROCDF
FCLOSE	MM/NEWFILE
FEOF	INCGEN/MAIN
FOPEN	INCGEN/MAIN
FPRINTF	INCGEN/MAIN
FREAD	INCGEN/MAIN
FWRITE	MM/SAVEIT
GDATA	PROCDC
GETCHAR	INCGEN/MAIN
GETS	INCGEN/MAIN
GPAGE	PROCDF
INITAL	PROCDF
INITFP	MM/MAIN
MEMCMP	MM/MAIN
MEMCPY	MM/MAIN
MEMSET	MM/NEWFILE
OBIND	DBUPW
OCOM	DBCOM
ODFINN	DBGAPD
OEXEC	DBGAPP
OFETCH	DBGAPP
OISCR	MM/MAIN
OLOGOF	DBCLSE
OLON	DBOPEN
OOPEN	DBOPEN
OPNFRM	MM/MAIN
OROL	DBROLL
OSQL3	DBDAPP
PDATA	PROCUC
PMSGLS	PROCPW
PRINTF	INCGEN/MAIN
RMVPAG	PROCDF
SPRINTF	MM/NEWFILE
TERMFP	PROCDF
TRMNAT	PROCPW

#### 3.10.4 Include File List

The following is a list of all include files called in by modules being documented here. Each include file has a unique name regardless of the language being used. The purpose of each include file is listed as well. A more complete description of each include file is given in section 3.10.9. The purpose listed is the one that is in the source code of the include file.

A purpose of "\*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*" indicates that a purpose statement was not written into the include file itself. The most common reason for this is that the include file comes from system libraries that were not developed by the project, such as 'C' libraries that are provided with the 'C' compiler.

See section 3.10.6 for a set of lists which show all the modules which call in each of these include files.

UI SERVICES Include File List

File Name -----	Purpose -----
APPDEF	APPlication DEFinition data declarations
CICODE	Command Interpreter CODEs
CURSORI	CURSOR description
DBNAME	DataBase field NAMES
DEFCOM	DEFCOM data delcarations
DEFINE	DEFINE form data declarations
FPCODE	FORM PROCESSOR RETURN CODES
FPD	FORM PROCESSOR DATA
FPEMSG	FORM PROCESSOR ERROR MESSAGES
FPPARM	FORM PROCESSOR PARAMETERS
LDAl	oracle Logon Data Area description
NTM	NTM INTERFACE INCLUDE FILE
ORACLE	data delcarations for programs that access ORACLE
ORCODE	ORacle CODEs
PSWORDI	PaaSWORD form data structure
SRVRET	AS THE RETURN GIVEN A TABLE-FULL ERROR
STDIO	**** PURPOSE NOT FOUND BY STRIPPER ****
STDTyp	STANDARD TYPE DEFINITIONS
UPDCOM	UPDate COMmand form data declarations

3.10.5 Where Include File Used List

The following lists each include file from 3.10.4 and all the modules documented in this specification which include them. The purpose of each module is listed as well.

UI SERVICES Where-include-file-used List

Include File -----	Module Name -----	Module Purpose -----
APPDEF	DBGAPD	Get APplication Description
	DBIAPD	Insert APplication Description
	DBUAPD	Update APplication Description
	PROCAP	PROcess APplication
	PROCDF	PROcess DeFine form
	PROCUC	PROcess Update Command form
CICODE	DBGAPP	Get APplications
	PROCAP	PROcess APplication
	PROCDC	PROcess Define Command form
	PROCDF	PROcess DeFine form
	PROCPW	PROCESS PSWORD FORM
	PROCUC	PROcess Update Command form
CUSORI	DBCUPR	CHECK USERID-PASSWORD-ROLE COMBINATION
	DBDAPP	Delete APplication
	DBDAPR	Delete AppRol
	DBGAPD	Get APplication Description
	DBGAPP	Get APplications
	DBIAPD	Insert APplication Description
	DBOPEN	OPEN DATA BASE
	DBUAPD	Update APplication Description
	DBUPW	UPDATE PASSWORD
	PROCAP	PROcess APplication
	PROCDC	PROcess Define Command form
	PROCDF	PROcess DeFine form
	PROCPW	PROCESS PSWORD FORM
	PROCUC	PROcess Update Command form

UI SERVICES Where-include-file-used List

Include File -----	Module Name -----	Module Purpose -----
DBNAME	DBOPEN PROCDF PROCPW	OPEN DATA BASE PROcess DeFine form PROCESS PSWORD FORM
DEFCOM	PROCDC	PROcess Define Command form
DEFINE	PROCDF	PROcess DeFine form
FPCODE	DBCLSE DBCOM DBCUPR DBDAPP DBDAPR DBGAPD DBGAPP DBIAPD DBOPEN DBROLL DBUAPD DBUPW MM/MAIN MM/NEWFIL MM/SAVEIT	CLOSE DATA BASE COMMIT DATA BASE CHECK USERID-PASSWORD-ROLE COMBINATION Delete APPlication Delete APpRol Get APPlication Description Get APPlications Insert APPlication Description OPEN DATA BASE ROLL BACK DATA BASE Update APPlication Description UPDATE PASSWORD MAIN MODULE FOR MESSAGE MANAGEMENT SAVE MESSAGES IN A NEW FILE SAVE MESAGE FILE CHANGES



UI SERVICES Where-include-file-used List

Include File -----	Module Name -----	Module Purpose -----
	PROCAP	PROcess APplication
	PROCDC	PROcess Define Command form
	PROCDF	PROcess DeFine form
	PROCPW	PROCESS PSWORD FORM
	PROCUC	PROcess Update Command form

FPD

INCGEN/MA MAIN MODULE FOR INCLUDE FILE GENERATOR  
MM/MAIN MAIN MODULE FOR MESSAGE MANAGEMENT  
MM/NEWFIL SAVE MESSAGES IN A NEW FILE  
MM/SAVEIT SAVE MESSAGE FILE CHANGES

FPMSG

INCGEN/MA MAIN MODULE FOR INCLUDE FILE GENERATOR  
MM/MAIN MAIN MODULE FOR MESSAGE MANAGEMENT  
MM/NEWFIL SAVE MESSAGES IN A NEW FILE  
MM/SAVEIT SAVE MESSAGE FILE CHANGES

FPPARM

MM/MAIN MAIN MODULE FOR MESSAGE MANAGEMENT  
MM/NEWFIL SAVE MESSAGES IN A NEW FILE  
MM/SAVEIT SAVE MESSAGE FILE CHANGES  
PROCDC PROcess Define Command form  
PROCDF PROcess DeFine form  
PROCPW PROCESS PSWORD FORM  
PROCUC PROcess Update Command form

LDAI

UI SERVICES Where-include-file-used List

Include File -----	Module Name -----	Module Purpose -----
	DBCLSE	CLOSE DATA BASE
	DBCOM	COMMIT DATA BASE
	DBOPEN	OPEN DATA BASE
	DBROLL	ROLL BACK DATA BASE
	PROCAP	PROcEss Application
	PROCDC	PROcEss Define Command form
	PROCDF	PROcEss DeFine form
	PROCPW	PROCESS PSWORD FORM
	PROCUC	PROcEss Update Command form

NTM

MM/MAIN	MAIN MODULE FOR MESSAGE MANAGEMENT
MM/NEWFIL	SAVE MESSAGES IN A NEW FILE
MM/SAVEIT	SAVE MESSAGE FILE CHANGES

ORACLE

DBCUPR	CHECK USERID-PASSWORD-ROLE COMBINATION
DBDAPP	Delete APPlication
DBDAPR	Delete AppRol
DBGAPD	Get APPlication Description
DBGAPP	Get APPlications
DBIAPD	Insert APPlication Description
DBOPEN	OPEN DATA BASE
DBUAPD	Update APPlication Description
DBUPW	UPDATE PASSWORD

ORCODE

DBCLSE	CLOSE DATA BASE
DBCOM	COMMIT DATA BASE
DBCUPR	CHECK USERID-PASSWORD-ROLE COMBINATION
DEBAPP	Delete APPlication

UI SERVICES Where-include-file-used List

Include File -----	Module Name -----	Module Purpose -----
	DBDAPR	Delete APpRol
	DBGAPD	Get APplication Description
	DBGAPP	Get APplications
	DBIAPD	Insert APplication Description
	DBOPEN	OPEN DATA BASE
	DBROLL	ROLL BACK DATA BASE
	DBUAPD	Update APplication Description
	DBUPW	UPDATE PASSWORD
	PROCAP	PROcEss APplication
	PROCDC	PROcEss Define Command form
	PROCDF	PROcEss DeFine form
	PROCPW	PROCESS PSWORD FORM
PSWORDI	PROCPW	PROCESS PSWORD FORM
SRVRET	PROCDF	PROcEss DeFine form
	PROCPW	PROCESS PSWORD FORM
STDIO	INCGEN/MA	MAIN MODULE FOR INCLUDE FILE GENERATOR
	MM/MAIN	MAIN MODULE FOR MESSAGE MANAGEMENT
	MM/NEWFIL	SAVE MESSAGES IN A NEW FILE
	MM/SAVEIT	SAVE MESAGE FILE CHANGES
STDTyp	INCGEN/MA	MAIN MODULE FOR INCLUDE FILE GENERATOR

UI SERVICES Where-include-file-used List

Include File -----	Module Name -----	Module Purpose -----
	MM/MAIN	MAIN MODULE FOR MESSAGE MANAGEMENT
	MM/NEWFIL	SAVE MESSAGES IN A NEW FILE
	MM/SAVEIT	SAVE MESSAGE FILE CHANGES

UPDCOM	PROCUC	PROCeSS Update Command form
--------	--------	-----------------------------

#### 3.10.6 Where External Routine Used List

The following lists each external function or routine listed in 3.10.3 and all the documented modules which call it. The purpose of each module is listed as well.

UI SERVICES Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----
ADDFRM	MM/MAIN	MAIN MODULE FOR MESSAGE MANAGEMENT
	PROCDC	PROCEss Define Command form
	PROCDF	PROCEss DeFine form
	PROCPW	PROCESS PSWORD FORM
	PROCUC	PROCEss Update Command form
CLSFRM	PROCDF	PROCEss DeFine form
	PROCPW	PROCESS PSWORD FORM
FCLOSE	INCGEN/MAIMAIN	MODULE FOR INCLUDE FILE GENERATOR
	MM/NEWFILESAVE	MESSAGES IN A NEW FILE
	MM/SAVEIT	SAVE MESSAGE FILE CHANGES
FEOF	INCGEN/MAIMAIN	MODULE FOR INCLUDE FILE GENERATOR
FOPEN	INCGEN/MAIMAIN	MODULE FOR INCLUDE FILE GENERATOR
	MM/NEWFILESAVE	MESSAGES IN A NEW FILE
	MM/SAVEIT	SAVE MESSAGE FILE CHANGES
FPRINTF	INCGEN/MAIMAIN	MODULE FOR INCLUDE FILE GENERATOR
FREAD		

UI SERVICES Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----
	INCGEN/MAIMAIN	MODULE FOR INCLUDE FILE GENERATOR
	MM/NEWFILESAVE	MESSAGES IN A NEW FILE
FWRITE	MM/SAVEIT	SAVE MESSAGE FILE CHANGES
GDATA	MM/MAIN	MAIN MODULE FOR MESSAGE MANAGEMENT
	PROCDC	PROCEss DeFine Command form
	PROCDF	PROCEss DeFine form
	PROCPW	PROCESS PSWORD FORM
	PROCUC	PROCEss Update Command form
GETCHAR	INCGEN/MAIMAIN	MODULE FOR INCLUDE FILE GENERATOR
GETS	INCGEN/MAIMAIN	MODULE FOR INCLUDE FILE GENERATOR
GPAGE	PROCDF	PROCEss DeFine form
INITAL	MM/MAIN	MAIN MODULE FOR MESSAGE MANAGEMENT
	PROCDF	PROCEss DeFine form
	PROCPW	PROCESS PSWORD FORM

UI SERVICES Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----
INITFP	MM/MAIN	MAIN MODULE FOR MESSAGE MANAGEMENT
	PROCDF	PROCEss DeFine form
	PROCPW	PROCESS PSWORD FORM
MEMCMP	MM/MAIN	MAIN MODULE FOR MESSAGE MANAGEMENT
	MM/SAVEIT	SAVE MESAGE FILE CHANGES
MEMCPY	MM/MAIN	MAIN MODULE FOR MESSAGE MANAGEMENT
	MM/NEWFILESAVE	MESSAGES IN A NEW FILE
MEMSET	MM/MAIN	MAIN MODULE FOR MESSAGE MANAGEMENT
	MM/NEWFILESAVE	MESSAGES IN A NEW FILE
OBIND	DBCUPR	CHECK USERID-PASSWORD-ROLE COMBINATION
	DBDAPP	Delete APPLication
	DBDAPR	Delete APpRol
	DBGAPD	Get APplication Description
	DBGAPP	Get APPLications
	DBIAPD	Insert APplication Description
	DBUAPD	Update APplication Description
	DBUPW	UPDATE PASSWORD



UI SERVICES Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----
OCOM	DBCOM	COMMIT DATA BASE
ODFINN	DBCUPR DBGAPD DBGAPP	CHECK USERID-PASSWORD-ROLE COMBINATION Get Application Description Get Applications
OEXEC	DBCUPR DBDAPP DBDAPR DBGAPD DBGAPP DBIAPD DBUAPD DBUPW	CHECK USERID-PASSWORD-ROLE COMBINATION Delete APPlication Delete APpRol Get APPlication Description Get APPlications Insert APPlication Description Update APPlication Description UPDATE PASSWORD
OFETCH	DBCUPR DBGAPD DBGAPP	CHECK USERID-PASSWORD-ROLE COMBINATION Get Application Description Get Applications
OISCR	MM/MAIN PROCDF PROCPW	MAIN MODULE FOR MESSAGE MANAGEMENT PROCEss DeFine form PROCESS PSWORD FORM
OLOGOF	DBCLSE	CLOSE DATA BASE

UI SERVICES Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----
OLON	DBOPEN	OPEN DATA BASE
OOPEN	DBOPEN	OPEN DATA BASE
OPNFRM	MM/MAIN PROCDF PROCPW	MAIN MODULE FOR MESSAGE MANAGEMENT PROCeSS DeFine form PROCESS PSWORD FORM
OROL	DBROLL	ROLL BACK DATA BASE
OSQL3	DBCUPR DBDAPP DBDAPR DBGAPD DBGAPP DBIAPD DBUAPD DBUPW	CHECK USERID-PASSWORD-ROLE COMBINATION Delete APplication Delete APpRol Get APplication Description Get APplications Insert APplication Description Update APplication Description UPDATE PASSWORD
PDATA	MM/MAIN MM/NEWFILESAVE	MAIN MODULE FOR MESSAGE MANAGEMENT MESSAGES IN A NEW FILE

UI SERVICES Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----
	PROCDC	PROCEss Define Command form
	PROCDF	PROCEss DeFine form
	PROCUC	PROCEss Update Command form
PMSGLS	MM/MAIN	MAIN MODULE FOR MESSAGE MANAGEMENT
	PROCDC	PROCEss Define Command form
	PROCDF	PROCEss DeFine form
	PROCPW	PROCESS PSWORD FORM
	PROCUC	PROCEss Update Command form
PRINTF	INCGEN/MAIMAIN	MODULE FOR INCLUDE FILE GENERATOR
RMVPAG	PROCDF	PROCEss DeFine form
	PROCPW	PROCESS PSWORD FORM
SPRINTF	MM/NEWFILESAVE	MESSAGES IN A NEW FILE
TERMFP	MM/MAIN	MAIN MODULE FOR MESSAGE MANAGEMENT
	PROCDF	PROCEss DeFine form
	PROCPW	PROCESS PSWORD FORM
TRMNAT	MM/MAIN	MAIN MODULE FOR MESSAGE MANAGEMENT

UI SERVICES Where-external-routine-used List

System Module -----	Module Name -----	Module Purpose -----
	PROCDF	PROCEss DeFine form
	PROCPW	PROCESS PSWORD FORM

### 3.10.7 Main Program Parts List

The following lists each Main Program listed in 3.10.1 and all the modules which are called either by that module itself or by any of the documented modules which it calls. It is possible for a non-main module to be listed more than once if it is called by multiple modules. The called modules, in this case known as program parts, are marked as to whether they are documented here. If so, the phrase "well-defined module" appears by the module name, if not it is an "external routine". The Purpose of the Main Program module is listed as well.

UI SERVICES Main Program Parts List

Main Pgm Name -----	Module Name -----	Module Type -----
DBCUPR		Purpose-->CHECK USERID-PASSWORD-ROLE COMBINATION
	OBIND	External routine
	ODFINN	External routine
	OEXEC	External routine
	OFETCH	External routine
	OSQL3	External routine

UI SERVICES Main Program Parts List

Main Pgm Name -----	Module Name -----	Module Type -----
DBGAPP		Purpose-->Get APplications
	OBIND	External routine
	ODFINN	External routine
	OEXEC	External routine
	OFETCH	External routine
	OSQL3	External routine

UI SERVICES Main Program Parts List

Main Pgm Name -----	Module ame -----	Module Type -----
INCGEN/MAIN	Purpose-->	MAIN MODULE FOR INCLUDE FILE GENERATOR
	FCLOSE	External routine
	FEOF	External routine
	FOPEN	External routine
	FPRINTF	External routine
	FREAD	External routine
	GETCHAR	External routine
	GETS	External routine
	PRINTF	External routine



UI SERVICES Main Program Parts List

Main Pgm Name -----	Module Name -----	Module Type -----
MM/MAIN	Purpose-->	MAIN MODULE FOR MESSAGE MANAGEMENT
	ADDFRM	External routine
	FCLOSE	External routine
	FOPEN	External routine
	FREAD	External routine
	FWRITE	External routine
	GDATA	External routine
	INITAL	External routine
	INITFP	External routine
	MEMCMP	External routine
	MEMCPY	External routine
	MEMSET	External routine
	MM/NEWFILE	Well-defined module
	MM/SAVEIT	Well-defined module
	OISCR	External routine
	OPNFRM	External routine
	PDATA	External routine
	PMSGLS	External routine
	SPRINTF	External routine
	TERMFP	External routine
	TRMNAT	External routine

UI SERVICES Main Program Parts List

Main Pgm Name -----	Module Name -----	Module Type -----
PROCAP		Purpose-->PROCeSS APplication
	DBCOM	Well-defined module
	DBGAPD	Well-defined module
	OBIND	External routine
	OCOM	External routine
	ODFINN	External routine
	OEXEC	External routine
	OFETCH	External routine
	OSQL3	External routine

UI SERVICES Main Program Parts List

Main Pgm Name -----	Module Name -----	Module Type -----
PROCDF		Purpose-->PROcess DeFine form
	ADDFRM	External routine
	CLSFRM	External routine
	DBCLSE	Well-defined module
	DBCOM	Well-defined module
	DBDAPP	Well-defined module
	DBDAPR	Well-defined module
	DBGAPD	Well-defined module
	DBIAPD	Well-defined module
	DBOPEN	Well-defined module
	DBROLL	Well-defined module
	DBUAPD	Well-defined module
	GDATA	External routine
	GPAGE	External routine
	INITAL	External routine
	INITFP	External routine
	OBIND	External routine
	OCOM	External routine
	ODFINN	External routine
	OEXEC	External routine
	OFETCH	External routine
	OISCR	External routine
	OLOGOF	External routine
	OLON	External routine
	OOPEN	External routine
	OPNFRM	External routine
	OROL	External routine
	OSQL3	External routine
	PDATA	External routine
	PMSGLS	External routine
	PROCDC	Well-defined module
	PROCUC	Well-defined module
	RMVPAG	External routine
	TERMFP	External routine
	TRMNAT	External routine

UI SERVICES Main Program Parts List

Main Pgm Name -----	Module Name -----	Module Type -----
PROCPW		Purpose-->PROCESS PSWORD FORM
	ADDFRM	External routine
	CLSFRM	External routine
	DBCLSE	Well-defined module
	DBCOM	Well-defined module
	DBOPEN	Well-defined module
	DBUPW	Well-defined module
	GDATA	External routine
	INITAL	External routine
	INITFP	External routine
	OBIND	External routine
	OCOM	External routine
	OEXEC	External routine
	OISCR	External routine
	OLOGOF	External routine
	OLON	External routine
	OOPEN	External routine
	OPNFRM	External routine
	OSQL3	External routine
	PMSGLS	External routine
	RMVPAG	External routine
	TERMFP	External routine
	TRMNAT	External routine

### 3.10.8 Module Documentation

The following documentation describes information which is specific to each individual module being documented in this specification as listed in section 3.10.2. It provides a compact way of getting information that would be otherwise buried within each module's source code.

The specific items in this module documentation have the following meanings:

NAME:	Name of program Module.
PURPOSE:	Purpose of Module as detailed in the source code.
LANGUAGE:	Programming language source code is written in. The choices are: VAX-11 FORTRAN C (I/S-1 Workbench 'C') VAX-11 COBOL
MODULE TYPE:	Whether a Program, Subroutine, or Function.
SOURCE FILE:	Name of Source File from file specification.
SOURCE FILE TYPE:	Source File Extension from file specification.
HOST:	Whether this is a host-dependent routine (VAX or IBM) or blank if host-independent.
SUBSYSTEM:	IISS sub-system this file resides in.
SUBDIRECTORY:	Sub-directory of that subsystem in which this file resides.
DOCUMENTATION GROUP:	Name of documentation group of which this source file is a member.
DESCRIPTION:	A description of the module as obtained from the source code.
ARGUMENTS:	The arguments with which this routine is called if it is a Subroutine or a Function.
INCLUDE FILES:	A list of all the files that are included into this module as well as their purposes.
ROUTINES CALLED:	Subroutines or Functions, either documented or external, called by

this module, if any.

CALLED DIRECTLY BY: The documented routines which call  
this module, if any.

USED IN MAIN PROGRAM(S): The documented Main Programs which  
contain this module in their parts  
list according to the list in section  
3.10.7.

The Module Documentation is arranged alphabetically according  
to Module Name.

## UI SERVICES Module Documentation

NAME: DBCLSE  
PURPOSE: CLOSE DATA BASE  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: DBCLSE  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----  
THIS MODULE CLOSSES THE ORACLE DATA BASE.

### ARGUMENTS:

-----  
LDA = RECRD  
RCODE = DSPLY [X(5)]

### INCLUDE FILES:

-----  
ORCODE - ORacle CODEs  
FPCODE - FORM PROCESSOR RETURN CODES  
LDAI - oracle Logon Data Area description

### ROUTINES CALLED:

-----  
OLOGOF

### CALLED DIRECTLY BY:

-----  
PROCDF - PROCEss DeFine form  
PROCPW - PROCESS PSWORD FORM

### USED IN MAIN PROGRAM(S):

-----  
PROCDF - PROCEss DeFine form  
PROCPW - PROCESS PSWORD FORM

## UI SERVICES Module Documentation

NAME: DBCOM  
PURPOSE: COMMIT DATA BASE  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: DBCOM  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----  
THIS MODULE COMMITS UPDATES TO THE ORACLE DATA BASE.

### ARGUMENTS:

-----  
LDA = RECRD  
RCODE = DSPLY [X(5)]

### INCLUDE FILES:

-----  
ORCODE - ORacle CODEs  
FPCODE - FORM PROCESSOR RETURN CODES  
LDAI - oracle Logon Data Area description

### ROUTINES CALLED:

-----  
OCOM

### CALLED DIRECTLY BY:

-----  
PROCAP - PROCEss APplication  
PROCDC - PROCEss DeFine Command form  
PROCPW - PROCEss PSWORD FORM  
PROCUC - PROCEss Update Command form

### USED IN MAIN PROGRAM(S):

-----  
PROCAP - PROCEss APplication  
PROCDF - PROCEss DeFine form  
PROCPW - PROCEss PSWORD FORM



## UI SERVICES Module Documentation

NAME: DBCUPR  
PURPOSE: CHECK USERID-PASSWORD-ROLE COMBINATION  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: DBCUPR  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----

THIS MODULE CHECKS A USERID, PASSWORD, AND  
ROLE TO SEE IF THEY FORM A VALID COMBINATION.

### ARGUMENTS:

-----

CURSOR = RECRD  
USERID = DSPLY [X(10)]  
PSWORD = DSPLY [X(10)]  
ROLE = DSPLY [X(10)]  
RCODE = DSPLY [X(5)]

### INCLUDE FILES:

-----

ORACLE - data delcarations for programs that access  
ORACLE  
ORCODE - ORacle CODEs  
FPCODE - FORM PROCESSOR RETURN CODES  
CURSORI - CURSOR description

### ROUTINES CALLED:

-----

OSQL3  
OBIND  
OEXEC  
ODFINN  
OFETCH

## UI SERVICES Module Documentation

NAME: DBDAPP  
PURPOSE: Delete APPlication  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: DBDAPP  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----  
THIS MODULE DELETES AN APPLICATION.

### ARGUMENTS:

-----  
CURSOR = RECRD  
APPLICATION-ID = DSPLY [X(10)]  
RCODE = DSPLY [X(5)]

### INCLUDE FILES:

-----  
ORACLE - data delcarations for programs that access  
ORACLE  
ORCODE - ORacle CODEs  
FPCODE - FORM PROCESSOR RETURN CODES  
CURSORI - CURSOR description

### ROUTINES CALLED:

-----  
OSQL3  
OBIND  
OEXEC

### CALLED DIRECTLY BY:

-----  
PROCUC - PROCess Update Command form

### USED IN MAIN PROGRAM(S):

-----  
PROCDF - PROCess DeFine form

## UI SERVICES Module Documentation

NAME: DBDAPR  
PURPOSE: Delete APpRol  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: DBDAPR  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----  
THIS MODULE DELETES ENTRIES IN THE ROLAPP  
TABLE FOR A SPECIFIC APPLICATION. IT IS  
USED WHEN AN APPLICATION IS DELETED.

### ARGUMENTS:

-----  
CURSOR = RECRD  
APPLICATION-ID = DSPLY [X(10)]  
RCODE = DSPLY [X(5)]

### INCLUDE FILES:

-----  
ORACLE - data delcarations for programs that access  
ORACLE  
ORCODE - ORacle CODEs  
FPCODE - FORM PROCESSOR RETURN CODES  
CURSORI - CURSOR description

### ROUTINES CALLED:

-----  
OSQL3  
OBIND  
OEXEC

### CALLED DIRECTLY BY:

-----  
PROCUC - PROCess Update Command form

### USED IN MAIN PROGRAM(S):

-----  
PROCDF - PROCess DeFine form

## UI SERVICES Module Documentation

NAME: DBGAPD  
PURPOSE: Get APplication Description  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: DBGAPD  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----  
THIS MODULE GETS THE DESCRIPTION OF AN  
APPLICATION.

ETCHED (OK)

### ARGUMENTS:

-----  
CURSOR = RECRD  
APPLICATION-ID = DSPLY [X(10)]  
APPLICATION-DEFINITION = RECRD  
RCODE = DSPLY [X(5)]

### INCLUDE FILES:

-----  
ORACLE - data delcarations for programs that access  
ORACLE  
ORCODE - ORacle CODEs  
FPCODE - FORM PROCESSOR RETURN CODES  
CURSORI - CURSOR description  
APPDEF - APplication DEFinition data declarations

### ROUTINES CALLED:

-----  
OSQL3  
OBIND  
OEXEC  
ODFINN  
OFETCH

### CALLED DIRECTLY BY:

-----  
PROCAP - PROCEss APplication  
PROCDF - PROCEss DeFine form

### USED IN MAIN PROGRAM(S):

-----  
PROCAP - PROCEss APplication

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PROCDF       - PROCess DeFine form

## UI SERVICES Module Documentation

NAME: DBGAPP  
PURPOSE: Get Applications  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: DBGAPP  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----  
THIS MODULE GETS THE NAMES OF THE  
APPLICATIONS THAT ARE VALID FOR A  
PARTICULAR ROLE.

### ARGUMENTS:

-----  
CURSOR = RECRD  
CONTINUATION-IND = DSPLY [X]  
ROLE = DSPLY [X(10)]  
APPLICATION = RECRD  
RCODE = DSPLY [X(5)]

### INCLUDE FILES:

-----  
CICODE - Command Interpreter CODEs  
ORACLE - data delcarations for programs that access  
ORACLE  
ORCODE - ORacle CODEs  
FPCODE - FORM PROCESSOR RETURN CODES  
CURSORI - CURSOR description

### ROUTINES CALLED:

-----  
OSQL3  
OBIND  
OEXEC  
ODFINN  
OFETCH

## UI SERVICES Module Documentation

NAME: DBIAPD  
PURPOSE: Insert Application Description  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: DBIAPD  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----  
THIS MODULE INSERTS AN APPLICATION  
DESCRIPTION.

### ARGUMENTS:

-----  
CURSOR = RECRD  
APPLICATION-ID = DSPLY [X(10)]  
APPLICATION-DEFINITION = RECRD  
RCODE = DSPLY [X(5)]

### INCLUDE FILES:

-----  
ORACLE - data delcarations for programs that access  
ORACLE  
ORCODE - ORacle CODEs  
FPCODE - FORM PROCESSOR RETURN CODES  
CURSORI - CURSOR description  
APPDEF - APPLication DEFinition data declarations

### ROUTINES CALLED:

-----  
OSQL3  
OBIND  
OEXEC

### CALLED DIRECTLY BY:

-----  
PROCDC - PROCess Define Command form

### USED IN MAIN PROGRAM(S):

-----  
PROCDF - PROCess DeFine form

## UI SERVICES Module Documentation

NAME: DBOPEN  
PURPOSE: OPEN DATA BASE  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: DBOPEN  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----  
THIS MODULE OPENS AN ORACLE DATA BASE.

### ARGUMENTS:

-----  
DATABASE-NAME = DSPLY [X(15)]  
NAME-LENGTH = DSPLY [S9999]  
LDA = RECRD  
CURSOR = RECRD  
RCODE = DSPLY [X(5)]

### INCLUDE FILES:

-----  
ORACLE - data delcarations for programs that access  
ORACLE  
ORCODE - ORacle CODEs  
FPCODE - FORM PROCESSOR RETURN CODES  
DBNAME - DataBase field NAMES  
LDAI - oracle Logon Data Area description  
CURSORI - CURSOR description

### ROUTINES CALLED:

-----  
OLON  
OOPEN

### CALLED DIRECTLY BY:

-----  
PROCDF - PROCess DeFine form  
PROCPW - PROCESS PSWORD FORM

### USED IN MAIN PROGRAM(S):

-----  
PROCDF - PROCess DeFine form  
PROCPW - PROCESS PSWORD FORM



## UI SERVICES Module Documentation

NAME: DBROLL  
PURPOSE: ROLL BACK DATA BASE  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: DBROLL  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----

THIS MODULE ROLLS BACK THE CURRENT ORACLE  
DATA BASE TRANSACTION.

### ARGUMENTS:

-----

LDA = RECRD  
RCODE = DSPLY [X(5)]

### INCLUDE FILES:

-----

ORCODE - ORacle CODEs  
FPCODE - FORM PROCESSOR RETURN CODES  
LDAI - oracle Logon Data Area description

### ROUTINES CALLED:

-----

OROL

### CALLED DIRECTLY BY:

-----

PROCUC - PROCess Update Command form

### USED IN MAIN PROGRAM(S):

-----

PROCDF - PROCess DeFine form

## UI SERVICES Module Documentation

NAME: DBUAPD  
PURPOSE: Update Application Description  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: DBUAPD  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----  
THIS MODULE UPDATES THE DESCRIPTION OF  
AN APPLICATION.

PDATED (OK)

### ARGUMENTS:

-----  
CURSOR = RECRD  
APPLICATION-ID = DSPLY [X(10)]  
APPLICATION-DEFINITION = RECRD  
RCODE = DSPLY [X(5)]

### INCLUDE FILES:

-----  
ORACLE - data delcarations for programs that access  
ORACLE  
ORCODE - ORacle CODEs  
FPCODE - FORM PROCESSOR RETURN CODES  
CURSORI - CURSOR description  
APPDEF - APPLication DEFinition data declarations

### ROUTINES CALLED:

-----  
OSQL3  
OBIND  
OEXEC

### CALLED DIRECTLY BY:

-----  
PROCUC - PROCess Update Command form

### USED IN MAIN PROGRAM(S):

-----  
PROCDF - PROCess DeFine form

## UI SERVICES Module Documentation

NAME: DBUPW  
PURPOSE: UPDATE PASSWORD  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: DBUPW  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----  
THIS MODULE CHANGES THE PASSWORD FOR A PARTICULAR USER ID.  
THE OLD PASSWORD - USER ID COMBINATION MUST BE CORRECT BEFORE  
A CHANGE IS MADE.

### ARGUMENTS:

-----  
CURSOR = RECRD  
USERID = DSPLY [X(10)]  
OLDPSWORD = DSPLY [X(10)]  
NEWPSWORD = DSPLY [X(10)]  
RCODE = DSPLY [X(5)]

### INCLUDE FILES:

-----  
ORACLE - data delcarations for programs that access  
ORACLE  
ORCODE - ORacle CODEs  
FPCODE - FORM PROCESSOR RETURN CODES  
CURSORI - CURSOR description

### ROUTINES CALLED:

-----  
OSQL3  
OBIND  
OEXEC

### CALLED DIRECTLY BY:

-----  
PROCPW - PROCESS PSWORD FORM

### USED IN MAIN PROGRAM(S):

-----  
PROCPW - PROCESS PSWORD FORM

## UI SERVICES Module Documentation

NAME: INCGEN/MAIN  
PURPOSE: MAIN MODULE FOR INCLUDE FILE GENERATOR  
LANGUAGE: C  
MODULE TYPE: FUNCTION  
FUNCTION TYPE: INT ()  
SOURCE FILE: INCGEN  
SOURCE FILE TYPE: .C  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: MM  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----

#### SYNOPSIS

VOID MAIN()

#### DESCRIPTION

GENERATES AN INCLUDE FILE FROM MESSAGE FILE(S)

### INCLUDE FILES:

-----

STDTPY - STANDARD TYPE DEFINITIONS  
STDIO - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
FPD - FORM PROCESSOR DATA  
FPEMSG - FORM PROCESSOR ERROR MESSAGES

### ROUTINES CALLED:

-----

PRINTF  
GETS  
FOPEN  
FEOF  
FREAD  
FPRINTF  
FCLOSE  
GETCHAR

## UI SERVICES Module Documentation

NAME: MM/MAIN  
PURPOSE: MAIN MODULE FOR MESSAGE MANAGEMENT  
LANGUAGE: C  
MODULE TYPE: FUNCTION  
FUNCTION TYPE: INT ()  
SOURCE FILE: MM  
SOURCE FILE TYPE: .C  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: MM  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----

SYNOPSIS  
MAIN()

DESCRIPTION  
UTILITY TO MAINTAIN MESSAGE FILES USED BY FORM PROCESSOR

### INCLUDE FILES:

-----

STDTPY - STANDARD TYPE DEFINITIONS  
STDIO - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
FPPARM - FORM PROCESSOR PARAMETERS  
FPD - FORM PROCESSOR DATA  
FPCODE - FORM PROCESSOR RETURN CODES  
FPEMSG - FORM PROCESSOR ERROR MESSAGES  
NTM - NTM INTERFACE INCLUDE FILE

### ROUTINES CALLED:

-----

INITAL  
MEMCMP  
TERMFP  
PDATA  
PMSGLS  
MM/NEWFILE - SAVE MESSAGES IN A NEW FILE  
MEMCPY  
MM/SAVEIT - SAVE MESSAGE FILE CHANGES  
GDATA  
MEMSET  
OISCR  
ADDFRM  
TRMNAT  
INITFP  
OPNFRM

## UI SERVICES Module Documentation

NAME: MM/NEWFILE  
PURPOSE: SAVE MESSAGES IN A NEW FILE  
LANGUAGE: C  
MODULE TYPE: SUBROUTINE  
FUNCTION TYPE: VOID ()  
SOURCE FILE: MM  
SOURCE FILE TYPE: .C  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: MM  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----

### ARGUMENTS:

-----

FILEDESC = CHAR []  
BASE = CHAR []

### INCLUDE FILES:

-----

STD TYP - STANDARD TYPE DEFINITIONS  
STDIO - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
FPPARM - FORM PROCESSOR PARAMETERS  
FPD - FORM PROCESSOR DATA  
FPCODE - FORM PROCESSOR RETURN CODES  
FPEMSG - FORM PROCESSOR ERROR MESSAGES  
NTM - NTM INTERFACE INCLUDE FILE

### ROUTINES CALLED:

-----

PDATA  
MEMCPY  
FCLOSE  
FREAD  
FOPEN  
SPRINTF  
MEMSET

### CALLED DIRECTLY BY:

-----

MM/MAIN - MAIN MODULE FOR MESSAGE MANAGEMENT

### USED IN MAIN PROGRAM(S):

-----

MM/MAIN - MAIN MODULE FOR MESSAGE MANAGEMENT

## UI SERVICES Module Documentation

NAME: MM/SAVEIT  
PURPOSE: SAVE MESSAGE FILE CHANGES  
LANGUAGE: C  
MODULE TYPE: FUNCTION  
FUNCTION TYPE: BOOL ()  
SOURCE FILE: MM  
SOURCE FILE TYPE: .C  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: MM  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----

### ARGUMENTS:

-----

FILEDESC = CHAR []

### INCLUDE FILES:

-----

STDTyp - STANDARD TYPE DEFINITIONS  
STDIO - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
FPPARM - FORM PROCESSOR PARAMETERS  
FPD - FORM PROCESSOR DATA  
FPCODE - FORM PROCESSOR RETURN CODES  
FPEMSG - FORM PROCESSOR ERROR MESSAGES  
NTM - NTM INTERFACE INCLUDE FILE

### ROUTINES CALLED:

-----

FCLOSE  
FWRITE  
MEMCMP  
FOPEN

### CALLED DIRECTLY BY:

-----

MM/MAIN - MAIN MODULE FOR MESSAGE MANAGEMENT

### USED IN MAIN PROGRAM(S):

-----

MM/MAIN - MAIN MODULE FOR MESSAGE MANAGEMENT

## UI SERVICES Module Documentation

NAME: PROCAP  
PURPOSE: PROCess APplication  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: PROCAP  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----  
THIS MODULE PROCESSES A REQUEST TO RUN  
A REMOTE APPLICATION.

### ARGUMENTS:

-----  
LDA = RECRD  
CURSOR = RECRD  
FUNCTION = DSPLY [X(10)]  
ACTION-CODE = DSPLY [X(5)]  
MSG-HEADER = DSPLY [X(800)]  
RCODE = DSPLY [X(5)]

### INCLUDE FILES:

-----  
CICODE - Command Interpreter CODEs  
ORCODE - ORacle CODEs  
FPCODE - FORM PROCESSOR RETURN CODES  
APPDEF - APPlication DEFinition data declarations  
LDAI - oracle Logon Data Area description  
CURSORI - CURSOR description

### ROUTINES CALLED:

-----  
DBGAPD - Get APplication Description  
DBCOR - COMMIT DATA BASE



## UI SERVICES Module Documentation

NAME: PROCDC  
PURPOSE: PROCess Define Command form  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: PROCDC  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----  
THIS MODULE PROCESSES THE DEFCOM FORM OF  
THE UIMS SYSTEM SERVICES.

### ARGUMENTS:

-----  
LDA = RECRD  
CURSOR = RECRD  
ACTION-CODE = DSPLY [X(5)]  
APPLICATION-ID = DSPLY [X(10)]  
RCODE = DSPLY [X(5)]

### INCLUDE FILES:

-----  
CICODE - Command Interpreter CODEs  
DEFCOM - DEFCOM data delcarations  
FPPARM - FORM PROCESSOR PARAMETERS  
ORCODE - ORacle CODEs  
FPCODE - FORM PROCESSOR RETURN CODES  
LDAI - oracle Logon Data Area description  
CURSORI - CURSOR description

### ROUTINES CALLED:

-----  
ADDFRM  
PDATA  
GDATA  
DBIAPD - Insert APplication Description  
DBCOM - COMMIT DATA BASE  
PMSGLS

### CALLED DIRECTLY BY:

-----  
PROCDF - PROCess DeFine form

### USED IN MAIN PROGRAM(S):

-----  
PROCDF - PROCess DeFine form

## UI SERVICES Module Documentation

NAME: PROCDF  
PURPOSE: PROCess DeFine form  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: PROGRAM  
SOURCE FILE: PROCDF  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----  
THIS MODULE PROCESSES THE DEFINE FORM OF  
THE UI SERVICES.

### INCLUDE FILES:

-----  
APPDEF - APPlication DEFinition data declarations  
CICODE - Command Interpreter CODEs  
DEFINE - DEFINE form data declarations  
FPCODE - FORM PROCESSOR RETURN CODES  
FPPARM - FORM PROCESSOR PARAMETERS  
DBNAME - DataBase field NAMES  
ORCODE - ORacle CODEs  
LDAI - oracle Logon Data Area description  
CURSORI - CURSOR description  
SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR

### ROUTINES CALLED:

-----  
INITAL  
INITFP  
TERMFP  
TRMNAT  
DBOPEN - OPEN DATA BASE  
OPNFRM  
ADDFRM  
PDATA  
OISCR  
PMSGLS  
GDATA  
DBGAPD - Get Application Description  
PROCDC - PROCess Define Command form  
PROCUC - PROCess Update Command form  
GPAGE  
RMVPAG  
CLSFRM  
DBCLSE - CLOSE DATA BASE

## UI SERVICES Module Documentation

NAME: PROCPW  
PURPOSE: PROCESS PSWORD FORM  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: PROGRAM  
SOURCE FILE: PROCPW  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----  
THIS MODULE PROCESSES THE PSWORD FORM OF THE  
UI SERVICES.

### INCLUDE FILES:

-----  
CICODE - Command Interpreter CODEs  
FPPARM - FORM PROCESSOR PARAMETERS  
DBNAME - DataBase field NAMES  
ORCODE - ORacle CODEs  
PSWORDI - PaaSWORD form data structure  
FPCODE - FORM PROCESSOR RETURN CODES  
LDAI - oracle Logon Data Area description  
CURSORI - CURSOR description  
SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR

### ROUTINES CALLED:

-----  
INITAL  
INITFP  
TERMFP  
TRMNAT  
DBOPEN - OPEN DATA BASE  
OPNFRM  
ADDFRM  
OISCR  
GDATA  
PMSGLS  
DBUPW - UPDATE PASSWORD  
DBCOM - COMMIT DATA BASE  
RMVPAG  
CLSFRM  
DBCLSE - CLOSE DATA BASE

## UI SERVICES Module Documentation

NAME: PROCUC  
PURPOSE: PROCess Update Command form  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: PROCUC  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: UI  
SUBDIRECTORY: UIS  
DOCUMENTATION GROUP: UISERV

### DESCRIPTION:

-----  
THIS MODULE PROCESSES THE UPDCOM FORM OF  
THE DEFINE APPLICATION SERVICE.

### ARGUMENTS:

-----  
LDA = RECRD  
CURSOR = RECRD  
ACTION-CODE = DSPLY [X(5)]  
APPLICATION-ID = DSPLY [X(10)]  
APPLICATION-DEFINITION = RECRD  
RCODE = DSPLY [X(5)]

### INCLUDE FILES:

-----  
CICODE - Command Interpreter CODEs  
UPDCOM - UPDate COMmand form data declarations  
FPPARM - FORM PROCESSOR PARAMETERS  
FPCODE - FORM PROCESSOR RETURN CODES  
LDAI - oracle Logon Data Area description  
CURSORI - CURSOR description  
APPDEF - APplication DEFinition data declarations

### ROUTINES CALLED:

-----  
ADDFRM  
PDATA  
GDATA  
PMSGLS  
DBCOM - COMMIT DATA BASE  
DBDAPP - Delete APplication  
DBDAPR - Delete APpRol  
DBROLL - ROLL BACK DATA BASE  
DBUAPD - Update APplication Description

### CALLED DIRECTLY BY:

-----  
PROCDF - PROCCess DeFine form

USED IN MAIN PROGRAM(S):  
-----

PROCDF - PROCess DeFine form

### 3.10.9 Include File Descriptions

The following list contains a purpose and description of each include file listed in 3.10.4 as specified in the source code. The language it is written in is also given.

UI SERVICES Include File Description

FILE NAME: APPDEF  
PURPOSE: Application DEFinition data declarations  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

-----

IDENTIFICATION: APPDEF

UI SERVICES Include File Description

FILE NAME: CICODE  
PURPOSE: Command Interpreter CODEs  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:  
-----

IDENTIFICATION: CICODE

DESCRIPTION:

THESE ARE COMMAND INTERPRETER CODES.

INFORMATION:

TYPE: (C-COBOL, IC-COBOL COPY) IC

SUBSYSTEM: UI-CI

CONFIGURATION ITEM ID:

DESIGNED BY: S. L. BARKER

START DATE: 1/18/83

FINISH DATE: 1/18/83

PROGRAMMED BY: S. L. BARKER

START DATE: 1/18/83

FINISH DATE: 1/18/83

UPDATED 8/24/83 TO COMBINE WITH UICODE.INC

UPDATED 8/25/83 TO ACCOMMODATE NEW MESSAGE LINE CODE



UI SERVICES Include File Description

FILE NAME: CURSORI  
PURPOSE: CURSOR description  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:  
-----

IDENTIFICATION: CURSOR

DESCRIPTION:

THIS IS THE ORACLE CURSOR DESCRIPTION.  
INFORMATION:

TYPE: (C-COBOL, IC-COBOL COPY) IC  
SUBSYSTEM: UI  
CONFIGURATION ITEM ID:

DESIGNED BY: S. L. BARKER  
START DATE: 1/24/83  
FINISH DATE: 1/24/83

PROGRAMMED BY: S. L. BARKER  
START DATE: 1/24/83  
FINISH DATE: 1/24/83

UI SERVICES Include File Description

FILE NAME: DBNAME  
PURPOSE: DataBase field NAMEs  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:  
-----

IDENTIFICATION: DBNAME

DESCRIPTION:

THIS DESCRIBES THE ORACLE DATABASE ID FIELDS.

INFORMATION:

TYPE: (C-COBOL, IC-COBOL COPY) IC

SUBSYSTEM: UI

CONFIGURATION ITEM ID:

DESIGNED BY: S. L. BARKER

START DATE: 1/17/83

FINISH DATE: 1/17/83

PROGRAMMED BY: S. L. BARKER

START DATE: 1/17/83

FINISH DATE: 1/24/83

UI SERVICES Include File Description

FILE NAME: DEFCOM  
PURPOSE: DEFCOM data delcarations  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

-----  
IDENTIFICATION: DEFCOM

DESCRIPTION: THESE ARE THE DATA DECLARATIONS FOR THE  
DEFCOM FORM.

INFORMATION:

TYPE: (C-COBOL, IC-COBOL COPY) IC  
SUBSYSTEM: UI-CI  
CONFIGURATION ITEM ID:

DESIGNED BY: S. L. BARKER  
START DATE: 2/25/83  
FINISH DATE: 2/25/83

PROGRAMMED BY: S. L. BARKER  
START DATE: 2/25/83  
FINISH DATE: 2/25/83

UI SERVICES Include File Description

FILE NAME: DEFINE  
PURPOSE: DEFINE form data declarations  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:  
-----

UI SERVICES Include File Description

FILE NAME: FPCODE  
PURPOSE: FORM PROCESSOR RETURN CODES  
LANGUAGE: C

DESCRIPTION:  
-----

UI SERVICES Include File Description

FILE NAME: FPD  
PURPOSE: FORM PROCESSOR DATA  
LANGUAGE: C

DESCRIPTION:  
-----

DESCRIPTION  
DATA DEFINITIONS FOR ALL FORM PROCESSOR (INCLUDING  
MONITER) DATA.

UI SERVICES Include File Description

FILE NAME: FPEMSG  
PURPOSE: FORM PROCESSOR ERROR MESSAGES  
LANGUAGE: C

DESCRIPTION:  
-----

DESCRIPTION

UI SERVICES Include File Description

FILE NAME: FPPARM  
PURPOSE: FORM PROCESSOR PARAMETERS  
LANGUAGE: C

DESCRIPTION:  
-----

DESCRIPTION: THESE DATA DEFINITIONS ARE USED  
IN THE FORM PROCESSOR ROUTINES.



UI SERVICES Include File Description

FILE NAME: LDAI  
PURPOSE: oracle Logon Data Area description  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:  
-----

DESCRIPTION:  
THIS IS THE DESCRIPTION OF THE ORACLE LOGON DATA AREA.

INFORMATION:  
TYPE: (C-COBOL, IC-COBOL COPY) IC  
SUBSYSTEM: UI  
CONFIGURATION ITEM ID:

UI SERVICES Include File Description

FILE NAME: NTM  
PURPOSE: NTM INTERFACE INCLUDE FILE  
LANGUAGE: C

DESCRIPTION:  
-----

DESCRIPTION  
INCLUDE FILE FOR NTM INTERFACE

UI SERVICES Include File Description

FILE NAME: ORACLE  
PURPOSE: data declarations for programs that access ORACLE  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:  
-----

DESCRIPTION:

THESE ARE DATA DECLARATIONS THAT ARE COMMONLY USED  
IN PROGRAMS THAT ACCESS ORACLE.

INFORMATION:

TYPE: (C-COBOL, IC-COBOL COPY) IC  
SUBSYSTEM: UI  
CONFIGURATION ITEM ID:

DESIGNED BY: S. L. BARKER  
START DATE: 1/17/83  
FINISH DATE: 1/17/83

PROGRAMMED BY: S. L. BARKER  
START DATE: 1/17/83  
FINISH DATE: 1/24/83

UI SERVICES Include File Description

FILE NAME: ORCODE  
PURPOSE: ORacle CODEs  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:  
-----

DESCRIPTION:  
THESE ARE COMMONLY PASSED ORACLE CODES.  
INFORMATION:  
TYPE: (C-COBOL, IC-COBOL COPY) IC  
SUBSYSTEM: UI  
CONFIGURATION ITEM ID:

DESIGNED BY: S. L. BARKER  
START DATE: 1/18/83  
FINISH DATE: 1/18/83

PROGRAMMED BY: S. L. BARKER  
START DATE: 1/18/83  
FINISH DATE: 1/18/83

UPDATED 8/25/83 TO ACCOMMODATE NEW MESSAGE LINE CODE

ORACLE ERROR

UI SERVICES Include File Description

FILE NAME: PSWORDI  
PURPOSE: PaaSWORD form data structure  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:  
-----

DESCRIPTION: THIS IS THE DATA STRUCTURE FOR THE PSWORD FORM.

INFORMATION:

TYPE: (C-COBOL, IC-COBOL COPY) IC  
SUBSYSTEM: UI  
CONFIGURATION ITEM ID:

DESIGNED BY:  
START DATE:  
FINISH DATE:

PROGRAMMED BY: S. L. BARKER  
START DATE: 1/20/83  
FINISH DATE: 1/20/83

UI SERVICES Include File Description

FILE NAME: SRVRET  
PURPOSE: AS THE RETURN GIVEN A TABLE-FULL ERROR  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:  
-----

MODIFIED 11/2/83 TO INCLUDE RET-CODE-5	*
MODIFIED 1/9/84 TO INCREASE ALL ERROR CODES TO PIC X(5)	*
AND TO ELIMINATE ALPHA'S	*
MODIFIED 1/26/84 TO ADD RET-CODE FOR GETUSR-NOT-SUCC	*
SRV-SUCCESSFUL ADDED FOR GENERIC RETURN	*
MODIFIED 2/7/84 TO ADD ERROR CODES FOR ENTRY-NOT-FOUND	*
MODIFIED 2/8/84 TO ADD WHTHST-NOT-SUCCESSFUL	*
MODIFIED 2/20/84 TO ADD TSTMOD NEW CODES.	*

## UI SERVICES Include File Description

FILE NAME: STD TYP  
PURPOSE: STANDARD TYPE DEFINITIONS  
LANGUAGE: C

### DESCRIPTION:

#### DESCRIPTION

THIS FILE ENSURES THAT THE FOLLOWING STANDARD TYPES ARE AVAILABLE:

FLOAT	- SINGLE PRECISION FLOAT
DOUBLE	- DOUBLE PRECISION FLOAT
LONG	- 32 BIT (OR LARGER) SIGNED INTEGER
LBITS	- 32 BITS (OR MORE) FOR BIT MANIPULATION
INT	- NATURAL SIZE SIGNED INTEGER
UNSIGNED	- NATURAL SIZE UNSIGNED INTEGER
BOOL	- NATURAL SIZE LOGICAL (ZERO / NON-ZERO ONLY)
SHORT	- 16 BIT (OR LARGER) SIGNED INTEGER
USHORT	- 16 BIT (OR LARGER) UNSIGNED INTEGER
BITS	- 16 BITS (OR MORE) FOR BIT MANIPULATION
CHAR	- SINGLE MACHINE CHARACTER (REAL CHARACTERS ALWAYS POSITIVE)
TINY	- 8 BIT (OR LARGER) SIGNED INTEGER
UTINY	- 8 BIT (OR LARGER) UNSIGNED INTEGER
TBITS	- 8 BITS (OR MORE) FOR BIT MANIPULATION
TBOOL	- 8 BIT (OR LARGER) LOGICAL (ZERO / NON-ZERO ONLY)
METACHAR	- 16 BIT (OR LARGER) AUGMENTED CHARACTER (SIGNED)
VOID	- FUNCTION THAT RETURNS NO VALUE
FORTTRAN	- STORAGE CLASS FOR FOREIGN (NON-C) ROUTINES OR C ROUTINES WHICH ARE CALLABLE FROM FOREIGN ROUTINES

SINCE NOT ALL COMPILERS SUPPORT USHORT, TINY, AND UTINY, THE FUNCTIONS USHORT(), TINY(), AND UTINY() SHOULD BE USED WHENEVER REFERENCING THEM.

IN ADDITION, THE FOLLOWING UTILITY MACROS ARE DEFINED:

LURSHIFT(N, B)	- UNSIGNED LONG RIGHT SHIFT
MAX(A, B)	- MAXIMUM OF A AND B
MIN(A, B)	- MINIMUM OF A AND B

UI SERVICES Include File Description

ABS(A)	- ABSOLUTE VALUE OF A
STRASN(A, B)	- TRANSPORTABLE A = B FOR STRUCTURES
NULL	- NULL POINTER VALUE (0)
TRUE	- 1
FALSE	- 0
SUCCESS	- EXIT(SUCCESS) INDICATES SUCCESSFUL COMPLETION
FAILURE	- EXIT(FAILURE) INDICATES ERRORS

THE FOLLOWING SYMBOLS SHOULD BE DEFINED BASED ON THE  
COMPILER BEING USED:

USHORT	- COMPILER SUPPORTS UNSIGNED SHORT
TINY	- COMPILER TREATS CHAR AS SIGNED
UTINY	- CHAR IS SIGNED AND COMPILER SUPPORTS UNSIGNED CHAR
VOID	- COMPILER SUPPORTS VOID
FORTTRAN	- COMPILER SUPPORTS FORTRAN
STRASN	- DEFINE APPROPRIATE MACRO
SUCCESS	- DEFINE APPROPRIATE VALUE IF NOT 0
FAILURE	- DEFINE APPROPRIATE VALUE IF NOT 1



UI SERVICES Include File Description

FILE NAME: UPDCOM  
PURPOSE: UPDate COMmand form data declarations  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:  
-----

DESCRIPTION: THESE ARE THE DATA DECLARATIONS FOR THE  
UPDATE COMMAND (UPDCOM) FORM.

INFORMATION:

TYPE: (C-COBOL, IC-COBOL COPY) IC  
SUBSYSTEM: UI-CI  
CONFIGURATION ITEM ID:

DESIGNED BY: S. L. BARKER  
START DATE: 2/25/83  
FINISH DATE: 2/25/83

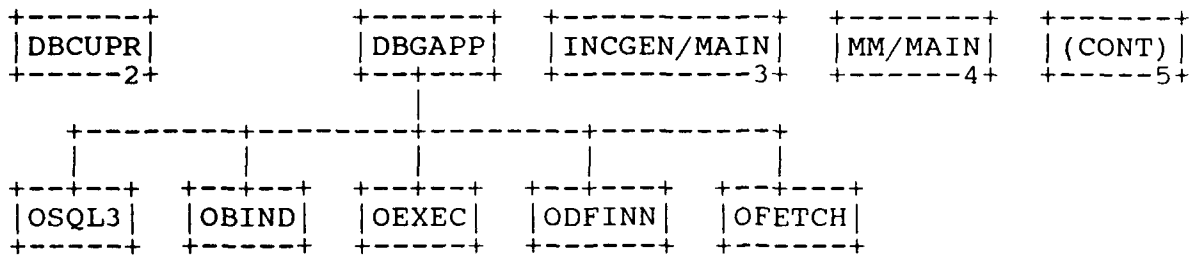
PROGRAMMED BY: S. L. BARKER  
START DATE: 2/25/83  
FINISH DATE: 2/25/83

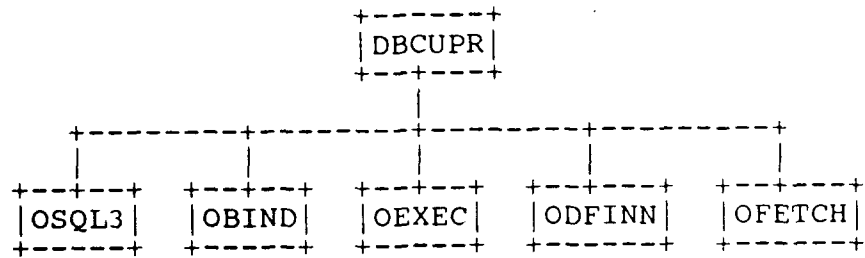
### 3.10.10 Hierarchy Chart

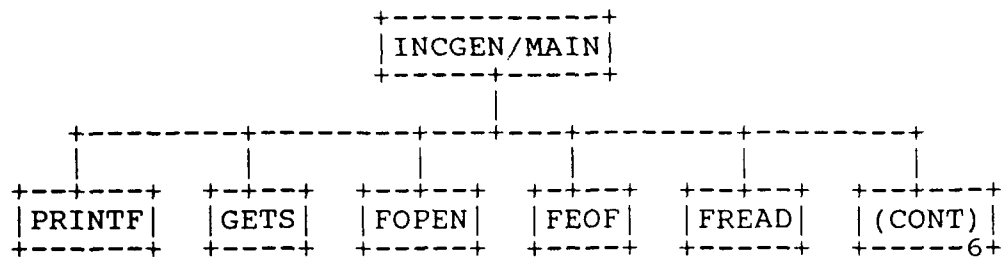
The following hierarchy charts show the relationships between all of the modules mentioned in the above documentation. A module may call a subroutine several times within its code, but the call will only be shown once as a single relationship on this hierarchy chart. All modules shown at the top of the first page are considered Main Programs as described in section 3.10.1 above.

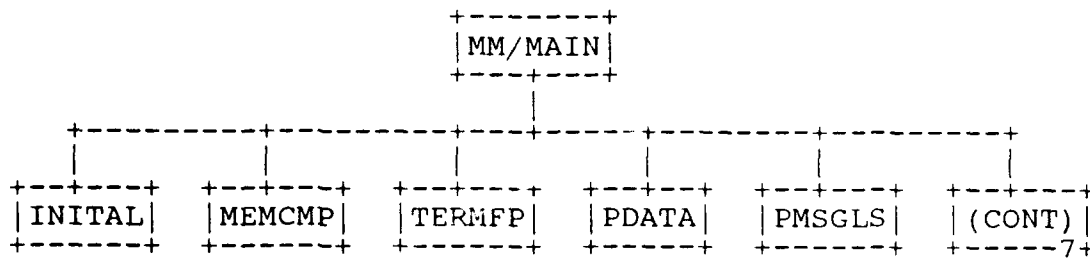
There is an internal paging scheme as marked by the numbers in the upper right corner of each page. An index after the last page of the chart shows where a routine and its calls are first defined. If a routine has no page reference, it either makes no calls or is an external routine. A continuation box on the end of a tree limb shows where that the tree continues on the page numbered mentioned. A number in a box with a routine name points to the page where the routine is further defined within the hierarchy tree. If there is no number in a box, the routine either makes no calls or is an external routine.

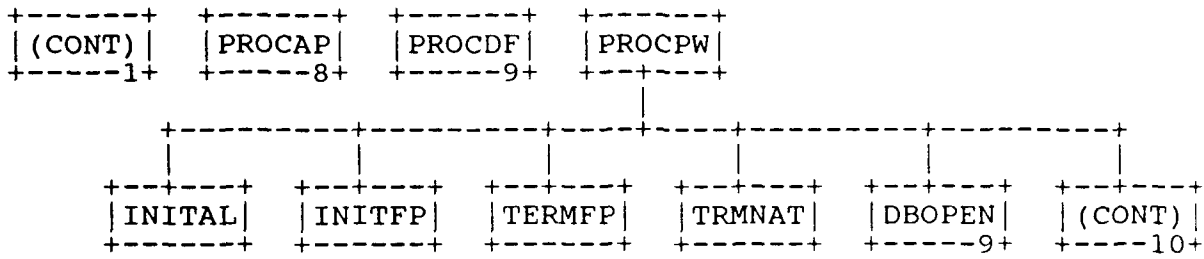
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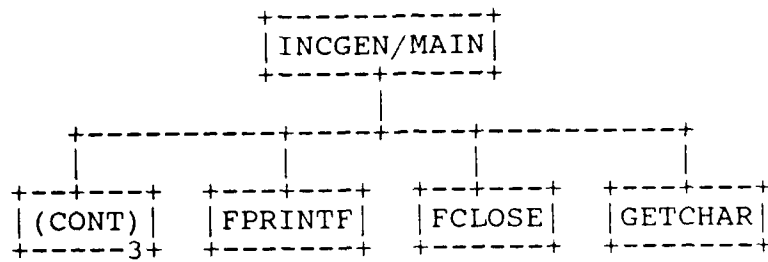




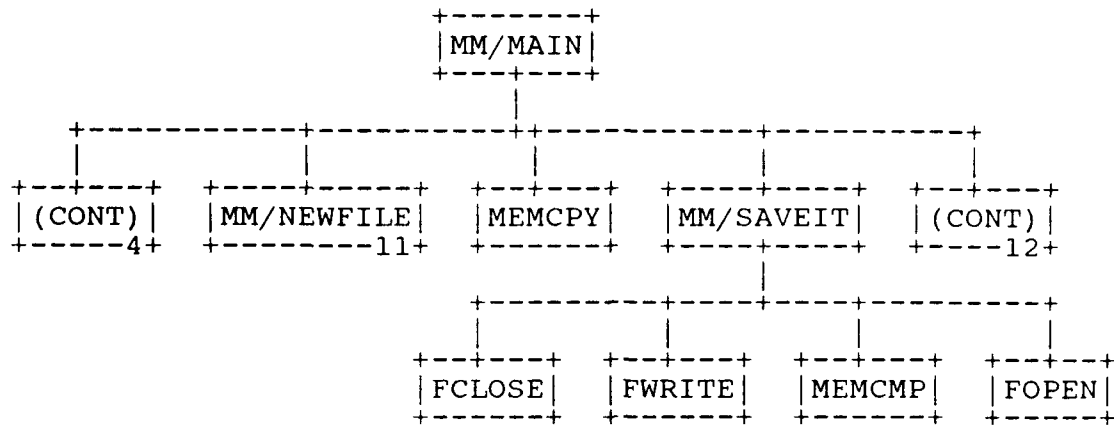


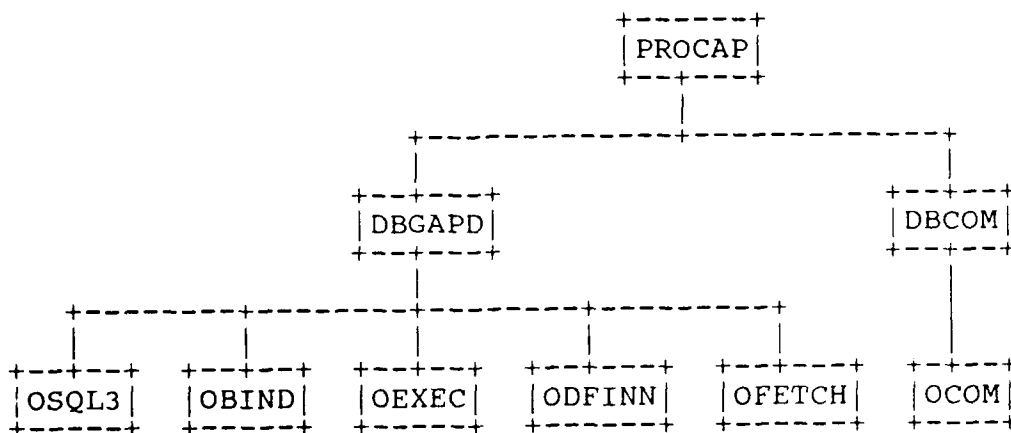


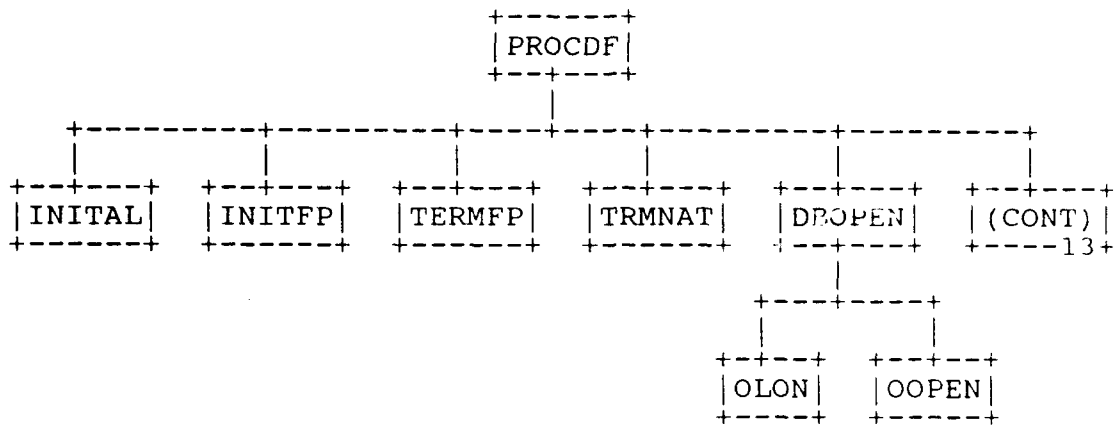


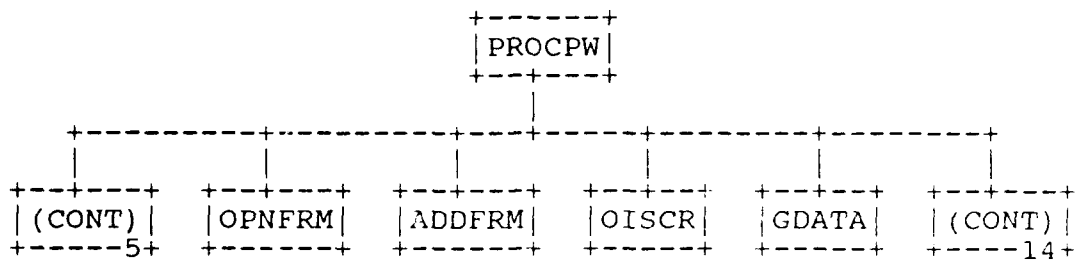




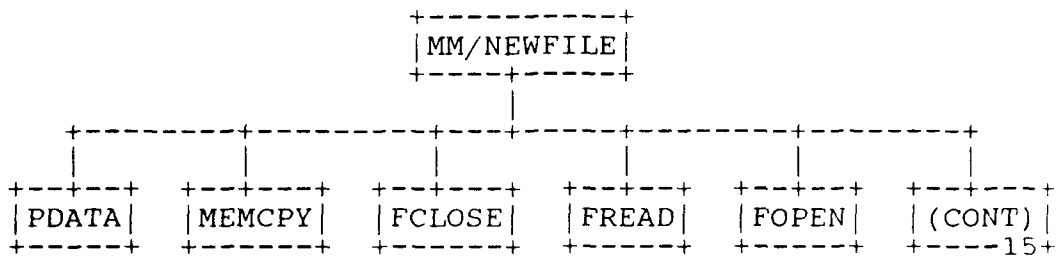


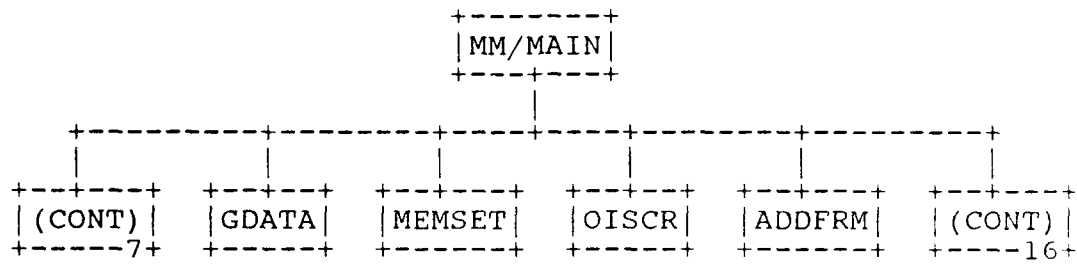




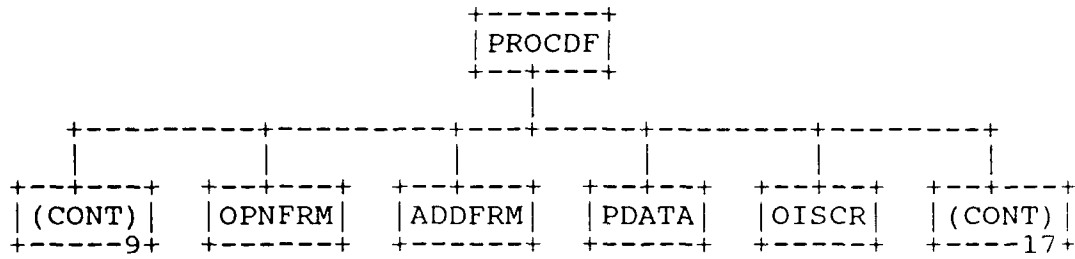


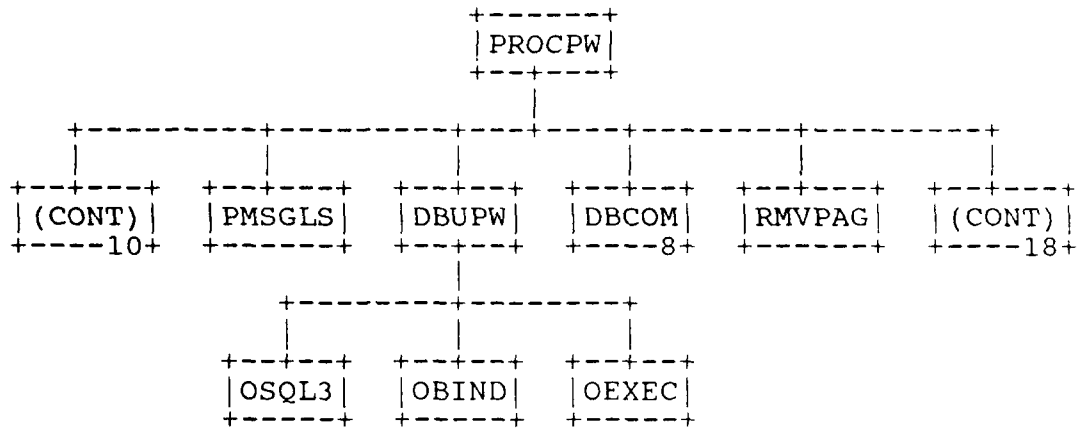
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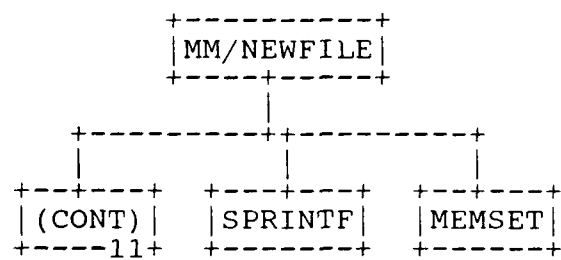


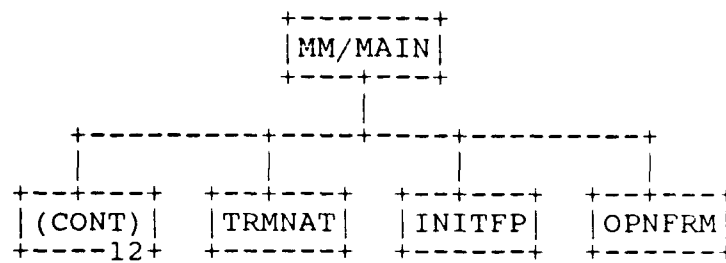
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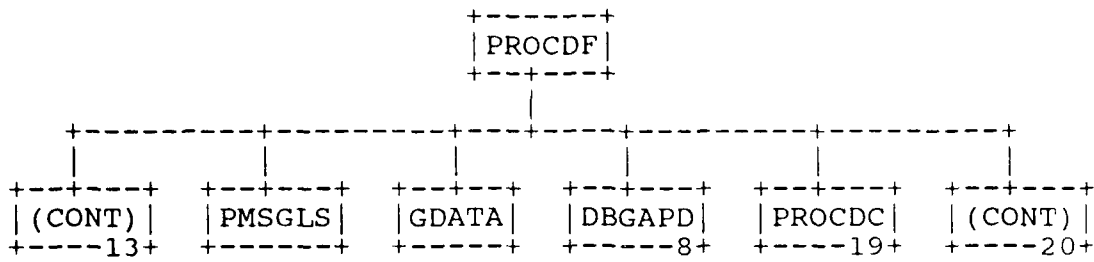


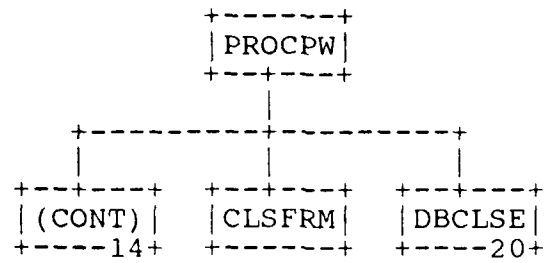


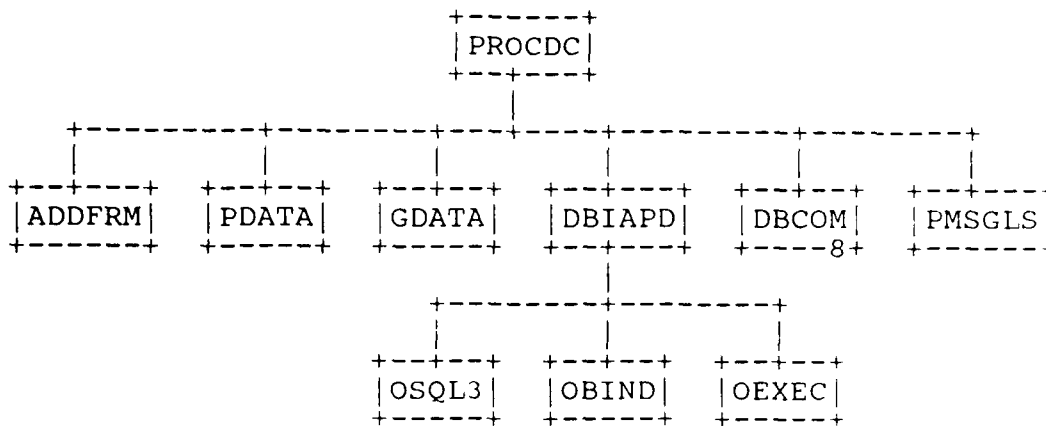


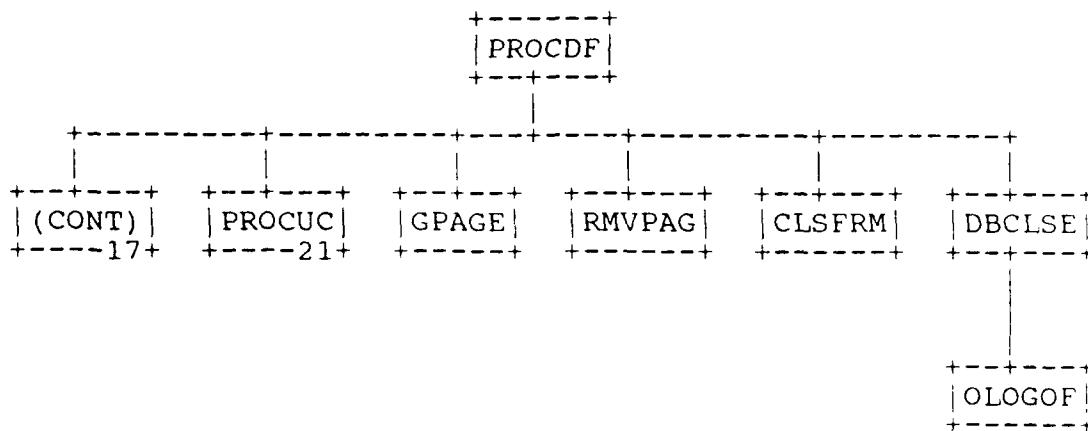


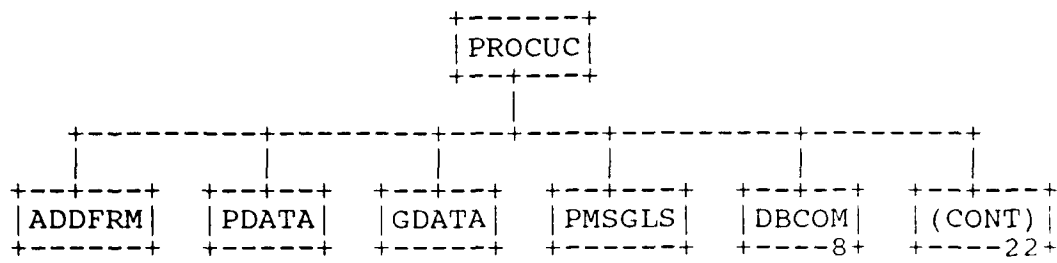
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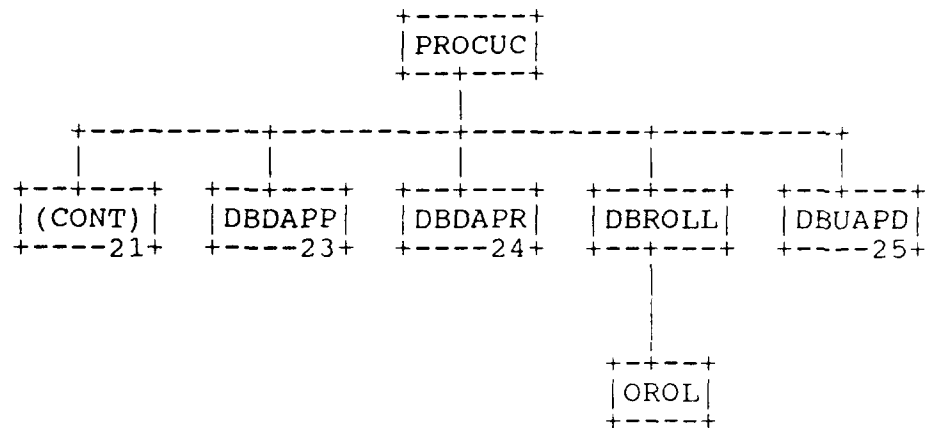




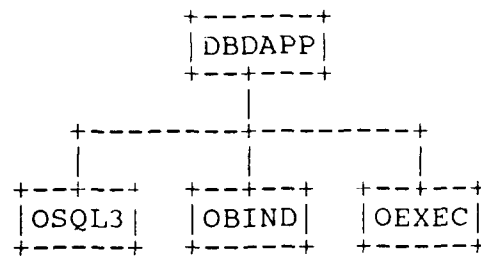


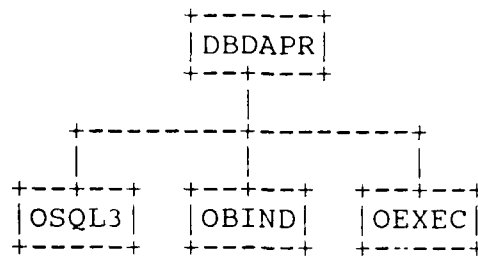




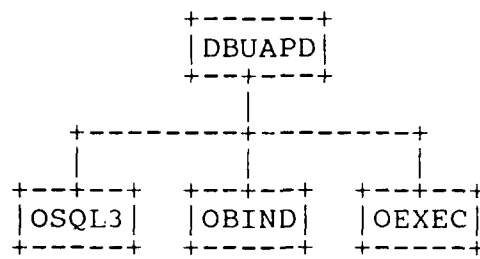








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ADDFRM	PRINTF
CLSFRM	PROCAP.....8
DBCLSE.....20	PROCDC.....19
DBCOM.....8	PROCDF.....9
DBCUPR.....2	PROCPW.....5
DBDAPP.....23	PROCUC.....21
DBDAPR.....24	RMVPAG
DBGAPD.....8	SPRINTF
DBGAPP.....1	TERMFP
DBIAPD.....19	TRMNAT
DBOPEN.....9	
DBROLL.....22	
DBUAPD.....25	
DBUPW.....14	
FCLOSE	
FEOF	
FOPEN	
FPRINTF	
FREAD	
FWRITE	
GDATA	
GETCHAR	
GETS	
GPAGE	
INCGEN/MAIN....3	
INITAL	
INITFP	
MEMCMP	
MEMCPY	
MEMSET	
MM/MAIN.....4	
MM/NEWFILE....11	
MM/SAVEIT.....7	
OBIND	
OCOM	
ODFINN	
OEXEC	
OFETCH	
OISCR	
OLOGOF	
OLON	
OOPEN	
OPNFRM	
OROL	
OSQL3	
PDATA	
PMSGLS	

### 3.11 Program Listings Comments

This information is contained in the Module Descriptions in section 3.10.

## SECTION 4

### QUALITY ASSURANCE PROVISIONS

#### 4.1 Introduction and Definitions

"Testing" is a systematic process that may be preplanned and explicitly stated. Test techniques and procedures may be defined in advance, and a sequence of test steps may be specified. "Debugging" is the process of isolation and correction of the cause of an error.

"Antibugging" is defined as the philosophy of writing programs in such a way as to make bugs less likely to occur and when they do occur, to make them more noticeable to the programmer and the user. In other words, as much error checking as is practical and possible in each routine should be performed.

#### 4.2 Computer Programming Test and Evaluation

The quality assurance provisions for test consists of the normal testing techniques that are accomplished during the construction process. They consist of design and code walk-throughs, unit testing, and integration testing. These tests are performed by the design team. Structured design, design walk-through and the incorporation of "antibugging" facilitate this testing by exposing and addressing problem areas before they become coded "bugs."